OTONOMY, INC.
Form 10-Q
November 05, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number: 001-36591

Otonomy, Inc.

(Exact name of registrant as specified in its charter)

Delaware	26-2590070
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

4796 Executive Drive

San Diego, California 92121

(619) 323-2200

(Address, including zip code, and telephone number, including area code, of registrant’s principal executive offices)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	Accelerated filer
Non-accelerated filer	Smaller reporting company
Emerging growth company	

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The number of shares of the registrant’s common stock, par value $0.001, outstanding as of October 31, 2018 was 30,630,125.

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements
Otonomy, Inc.

Condensed Balance Sheets

(in thousands, except share and per share data)

	September 30, 2018 (unaudited)	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 21,382	$18,456
Short-term investments	71,180	101,548
Accounts receivable, net	45	107
Prepaid and other current assets	2,413	2,334
Total current assets	95,020	122,445
Restricted cash	695	1,158
Property and equipment, net	4,269	4,679
Other long-term assets	231	82
Total assets	$ 100,215	$128,364
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 1,294	$961
Accrued expenses	3,566	3,881
Accrued compensation	2,341	3,307
Current portion of deferred rent	37	42
Total current liabilities	7,238	8,191
Deferred rent, net of current portion	2,979	2,894
Total liabilities	10,217	11,085
Commitments and Contingencies		
Stockholders' equity:		
Preferred stock, $0.001 par value; 10,000,000 shares authorized at September 30, 2018 and December 31, 2017; no shares issued or outstanding at September 30, 2018 and December 31, 2017	—	—
Common stock, $0.001 par value; 200,000,000 shares authorized at September 30, 2018 and December 31, 2017; 30,630,125 and 30,558,726 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	31	31
Additional paid-in capital	492,388	482,198
Accumulated other comprehensive loss	(48)	(100)

Accumulated deficit	(402,373)	(364,850)
Total stockholders' equity	89,998	117,279
Total liabilities and stockholders' equity	$ 100,215	$128,364

See accompanying notes.

Otonomy, Inc.

Condensed Statements of Operations

(in thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017 (unaudited)	2018	2017
Product sales, net	$113	$282	$537	$966
Costs and operating expenses:				
Cost of product sales	162	290	675	1,150
Research and development	8,300	10,761	22,175	36,660
Selling, general and administrative	4,652	10,548	16,428	35,387
Total costs and operating expenses	13,114	21,599	39,278	73,197
Loss from operations	(13,001)	(21,317)	(38,741)	(72,231)
Interest income	455	319	1,218	934
Net loss	$(12,546)	$(20,998)	$(37,523)	$(71,297)
Net loss per share, basic and diluted	$(0.41)	$(0.69)	$(1.23)	$(2.35)
Weighted-average shares used to compute net loss per share, basic and diluted	30,630,125	30,314,155	30,597,874	30,280,267

See accompanying notes.

Otonomy, Inc.

Condensed Statements of Comprehensive Loss

(in thousands)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(unaudited)			
Net loss	$(12,546)	$(20,998)	$(37,523)	$(71,297)
Other comprehensive income (loss):				
Unrealized gain (loss) on available for sale securities	(2)	60	52	(18)
Comprehensive loss	$(12,548)	$(20,938)	$(37,471)	$(71,315)

See accompanying notes.

Otonomy, Inc.

Condensed Statements of Cash Flows

(in thousands)

	Nine Months Ended September 30,	
	2018	2017
	(unaudited)	
Cash flows from operating activities:		
Net loss	$(37,523)	$(71,297)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	892	923
Stock-based compensation	9,961	10,468
Amortization of discount or premium on short-term investments	(328)	367
Deferred rent	80	2,230
Changes in operating assets and liabilities:		
Accounts receivable, net	62	(35)
Inventory	—	197
Prepaid and other assets	(228)	1,111
Accounts payable	321	138
Accrued expenses	(322)	(4,317)
Accrued compensation	(966)	(714)
Net cash used in operating activities	(28,051)	(60,929)
Cash flows from investing activities:		
Purchases of short-term investments	(80,502)	(106,661)
Maturities of short-term investments	111,250	161,066
Purchases of property and equipment	(463)	(844)
Net cash provided by investing activities	30,285	53,561
Cash flows from financing activities:		
Proceeds from exercise of stock options	32	122
Proceeds from issuance of common stock	197	427
Net cash provided by financing activities	229	549
Net change in cash, cash equivalents and restricted cash	2,463	(6,819)
Cash, cash equivalents and restricted cash at beginning of period	19,614	24,853
Cash, cash equivalents and restricted cash at end of period	$22,077	$18,034
Cash and cash equivalents at end of period	$21,382	$16,877
Restricted cash at end of period	695	1,157
Cash, cash equivalents and restricted cash at end of period	$22,077	$18,034
Supplemental disclosure of non-cash investing activities:		
Purchase of property and equipment in accounts payable and accrued expenses	$19	$368

See accompanying notes.

Otonomy, Inc.

Notes to Condensed Financial Statements

(unaudited)

1. Description of Business and Basis of Presentation

Description of Business

Otonomy, Inc. (Otonomy or the Company) was incorporated in the state of Delaware on May 6, 2008. Otonomy is a biopharmaceutical company dedicated to the development of innovative therapeutics for otology. The Company pioneered the application of drug delivery technology to the ear in order to develop products that achieve sustained drug exposure from a single local administration. OTIVIDEX™ is a steroid formulation that has completed two Phase 3 trials for the treatment of Ménière's disease, with a third Phase 3 trial recently initiated to support a submission for U.S. registration. OTO-313 is a formulation of the potent and selective N-Methyl-D-Aspartate (NMDA) receptor antagonist gacyclidine that is in development for the treatment of tinnitus. Otonomy is also advancing three preclinical-stage programs that address different pathologies of hearing loss: (i) OTO-413 is a formulation of brain-derived neurotrophic factor (BDNF) for the repair of cochlear synaptopathy and the treatment of speech-in-noise hearing difficulties; (ii) OTO-5XX is an otoprotectant in development for the prevention of cisplatin induced hearing loss; and (iii) OTO-6XX induces hair cell regeneration in a nonclinical proof-of-concept model and is being developed for the treatment of severe hearing loss.

In addition, the Company developed, received U.S. Food and Drug Administration (FDA) approval and commercially launched OTIPRIO® (ciprofloxacin otic suspension) for use during tympanostomy tube placement (TTP) surgery in pediatric patients. OTIPRIO was also approved by the FDA for the treatment of acute otitis externa (AOE). The Company has entered into a partnership with privately held Mission Pharmacal Company (Mission) to support the promotion of OTIPRIO for the treatment of AOE in pediatrician and primary care physician offices as well as urgent care clinics in the United States.

Basis of Presentation

The accompanying condensed financial statements have been prepared assuming the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The Company has incurred operating losses and negative cash flows from operating activities since inception. As of September 30, 2018, the Company had cash, cash equivalents and short-term investments of $92.6 million and an accumulated deficit of $402.4 million. The Company anticipates that it will continue to incur net losses into the foreseeable future as it: (i) develops and seeks regulatory approvals for OTIVIDEX and its other potential product candidates; and (ii) works to develop additional product candidates through research and development programs. When additional financing is required, the Company anticipates that it will seek additional funding through future debt and/or equity financings or other sources, such as potential collaboration agreements. If the Company is not able to secure adequate additional funding, if or when necessary, the Company may be forced to make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. Any of these actions could materially harm the Company's business, results of operations, and future prospects.

Unaudited Interim Financial Information

The accompanying interim condensed financial statements are unaudited. These unaudited interim condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) and following the requirements of the United States Securities and Exchange Commission (SEC) for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by GAAP can be condensed or omitted. In the Company's opinion, the unaudited interim condensed financial statements have been prepared on the same basis as the audited financial statements and include all adjustments, which include only normal recurring adjustments necessary for the fair presentation of the Company's financial position, results of operations and cash flows for the periods presented. These statements do not include all disclosures required by GAAP and should be read in conjunction with the Company's audited financial statements and accompanying notes for the year ended December 31, 2017 included in the Company's Form 10-K, as filed with the SEC on March 8, 2018. The results presented in these unaudited condensed financial statements are not necessarily indicative of the results expected for the full fiscal year or any other interim period or any future year or period.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of product sales and expense during the reporting period. Although these estimates are based on

the Company's knowledge of current events and actions it may undertake in the future, actual results may ultimately materially differ from these estimates and assumptions.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business in one operating segment.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash, cash equivalents and short-term investments. The Company maintains deposits in federally insured financial institutions in excess of federally insured limits. The Company has not experienced any losses in such accounts and believes it is not exposed to significant risk on its cash balances due to the financial position of the depository institution in which those deposits are held. Additionally, the Company established guidelines regarding approved investments and maturities of investments, which are designed to maintain safety and liquidity.

Cash, Cash Equivalents and Restricted Cash

Cash and cash equivalents consist of cash in readily available checking, savings and money market accounts, and highly liquid investments with original maturities of three months or less at the date of purchase. The carrying amounts approximate fair value due to the short maturities of these instruments.

The Company's restricted cash consists of cash maintained in separate deposit accounts to secure a letter of credit issued by a bank to the landlord under a lease agreement for the Company's corporate headquarters.

Short-term Investments

The Company carries short-term investments classified as available-for-sale debt securities at fair value as determined by prices for identical or similar securities at the balance sheet date. Short-term investments consist of both Level 1 and Level 2 financial instruments in the fair value hierarchy (see Note 7 – Fair Value).

Realized gains or losses of available-for-sale debt securities are determined using the specific identification method and net realized gains and losses are included in interest income. The Company periodically reviews available-for-sale debt securities for other-than temporary declines in fair value below the cost basis, and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company records unrealized gains and losses on available-for-sale debt securities as a component of other comprehensive loss within the statements of comprehensive loss and as a separate component of stockholders' equity on the condensed balance sheets.

Fair Value of Financial Instruments

The carrying value of the Company's cash and cash equivalents, short-term investments, prepaid expenses and other current assets, other assets, accounts payable, accrued liabilities, and accrued compensation approximate fair value due to the short-term nature of these items.

Accounts Receivable

Accounts receivable are recorded net of customer allowances for chargebacks, distributor fees and any allowance for doubtful accounts. The Company estimates the allowance for doubtful accounts based on existing contractual payment terms, actual payment patterns of its customers and individual customer circumstances. To date, the Company has determined that an allowance for doubtful accounts is not required.

Property and Equipment

Property and equipment generally consist of manufacturing equipment, furniture and fixtures, computers, and scientific and office equipment and are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the assets (generally two to ten years). Leasehold improvements are stated at cost and are depreciated on a straight-line basis over the lesser of the remaining term of the related lease or the estimated useful lives of the assets. Repairs and maintenance costs are charged to expense as incurred.

Impairment of Long-Lived Assets

The Company assesses the value of its long-lived assets, which consist of property and equipment, for impairment on an annual basis and whenever events or changes in circumstances and the undiscounted cash flows generated by those assets indicate that the carrying amount of such assets may not be recoverable. While the Company's current and historical operating losses and negative cash flows are indicators of impairment, the Company believes that future cash flows to be received support the carrying value of its long-lived assets. The Company had no impairments or disposals of long-lived assets during the nine months ended September 30, 2018.

Clinical Trial Expense Accruals

As part of the process of preparing the Company's financial statements, the Company is required to estimate expenses resulting from the Company's obligations under contracts with vendors, clinical research organizations and consultants and under clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts.

The Company's objective is to reflect the appropriate clinical trial expenses in its financial statements by recording those expenses in the period in which services are performed and efforts are expended. The Company accounts for these expenses according to the progress of the trial as measured by patient progression and the timing of various aspects of the trial. The Company determines accrual estimates through financial models taking into account discussion with applicable personnel and outside service providers as to the progress or state of its trials. During the course of a clinical trial, the Company adjusts its clinical expense if actual results differ from its estimates.

Revenue Recognition

Effective January 1, 2018, the Company adopted Accounting Standards Concepts (ASC) Topic 606, Revenue from Contracts with Customers (ASC 606), using the full retrospective approach. The Company's accounting for revenue under ASC 606 is materially consistent with the accounting for revenue under ASC 605, Revenue Recognition, and therefore the cumulative effect of adoption was immaterial.

To determine revenue recognition for arrangements within the scope of ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations in the contract, and (v) recognize revenue when (or as) we satisfy a performance obligation. The Company only applies the five-step model to arrangements that meet the definition of a contract with a customer under ASC 606 and when it is probable the Company will collect the consideration exchanged for the goods or services transferred to the customer. At contract inception, the Company assesses the goods or services promised within each contract and determines those that are performance obligations, and then it assesses whether each promised good or service is distinct. The Company recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when the performance obligation is satisfied.

OTIPRIO is sold to a limited number of specialty wholesale distributors. The Company recognizes revenue when its customers obtain control of OTIPRIO, typically upon delivery by the Company to these distributors. The Company has determined the delivery of OTIPRIO to its customers constitutes a single performance obligation and no other performance obligations are present. The Company's customer contracts have standard payment terms. The Company does not offer prompt pay discounts or financing on sales and has not identified any credit risk issues.

Hospitals, ambulatory surgery centers and physician offices order OTIPRIO from the Company's distributors and are the end users of OTIPRIO. The Company permits product returns from the distributors only if the product is damaged or is shipped or ordered in error. Product returns based on expiry are not permitted. To date, product returns have been immaterial.

Sales commissions and other incremental costs of obtaining customer contracts are expensed as incurred as the amortization periods would be less than one year or the amount is immaterial.

Transaction Price and Reserves for Variable Consideration

Revenue from product sales are recorded at the net sales price (transaction price), which includes estimates of variable consideration for which reserves are established. Components of variable consideration include trade discounts and allowances, government chargebacks, discounts and rebates and other fee for service amounts that are detailed within customer contracts relating to the sale of OTIPRIO. These reserves, as detailed below, are based on the amounts earned or accrued on our sales. Variable consideration is estimated using the most likely method, which is the single most likely outcome under the Company's contracts and takes into consideration contractual fees, historical chargeback activity and historical Medicaid rebates. Overall, these reserves reflect the Company's best estimates of the amount of consideration to which the Company is entitled based on the terms of the respective underlying contracts.

The amount of variable consideration included in the transaction price may be constrained and is included in the net sales price only to the extent that it is probable a significant reversal in the amount of the cumulative revenue recognized under the contract will not occur in a future period. The Company's analyses also contemplate application of the constraint in accordance with the guidance, under which the Company determined a material reversal of revenue would not occur in a future period. Reserves are established for these discounts and allowances upon delivery of OTIPRIO by the distributor and are classified as: (i) an allowance against accounts receivable if the amount is payable to the distributor or (ii) an accrued liability if the amount is payable to a party other than the distributor. Allowances against accounts receivable relate to chargebacks and distributor fees and accruals relate primarily to government rebates. Actual amounts of consideration ultimately received may differ from the Company's estimates. If actual results in the future vary from original estimates, the Company will adjust these estimates, which would affect net product revenue and earnings in the period such variances become known.

Trade Discounts and Allowances. The Company's customers are specialty wholesale distributors with whom the Company has contracted to pay a fee based on a percentage of wholesale acquisition cost for sales order management, data, and distribution services. The Company determined such services received to date are not distinct from the sale of products to customers and, therefore, these payments have been recorded as a reduction of revenue within the statement of operations. This fee for service is recorded as an allowance against accounts receivable at the time of sale based on the contracted percentage.

Chargebacks. The Company estimates allowances against accounts receivable for chargebacks related to agreements with group purchasing organizations and federal contracts. Under these agreements, the Company credits distributors a chargeback amount which represents the difference between the wholesale acquisition cost and the discounted price at which eligible purchasers purchased from the distributors. At the time of sale, estimated chargebacks are recorded based on historical chargeback activity, the projected payer mix, patient population industry data and the identification of entities purchasing OTIPRIO that are eligible for discounted pricing.

Government Rebates. The Company estimates a rebate liability in connection with a Medicaid Drug Rebate Agreement with the Centers for Medicare & Medicaid Services, which provides a rebate to participating states based on covered purchases of OTIPRIO. At the time of sale, estimated Medicaid rebates are recorded based on historical government rebate activity, the projected payer mix and Medicaid patient population industry data.

Concentration of Major Customers

The Company sells OTIPRIO to specialty wholesale distributor customers. The following table summarizes the Company's sales to its largest customers for each of the periods presented, with each customer accounting for over 10% of the Company's revenue in such period:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
First largest	41 %	41 %	45 %	35 %
Second largest	33 %	29 %	31 %	32 %
Third largest	24 %	28 %	21 %	31 %

Collaborative Arrangements

The Company has entered into a co-promotion agreement with a partner that falls under the scope of ASC Topic 808, Collaborative Arrangements (ASC 808). The terms of this agreement include (i) annual non-refundable non-creditable payments to the Company and reimbursement to the Company for a proportion of product support expenses as agreed upon by both parties and (ii) payments by the Company for profit sharing arising from our partner's promotional activities. Payments to the Company are recognized as a reduction of our selling, general and administrative expenses in the condensed statements of operations. Profit-sharing payments by the Company to our partner are recognized as selling, general and administrative expenses.

Research and Development

Research and development expenses include the costs associated with the Company's research and development activities, including salaries, benefits, stock-based compensation expense and occupancy costs. Also included in research and development expenses are third-party costs incurred in conjunction with contract manufacturing for the Company's research and development programs and clinical trials, including the cost of clinical trial drug supply, costs incurred by contract research organizations and regulatory expenses. Research and development costs are expensed as incurred.

Selling, General and Administrative

Selling, general and administrative expenses include the costs associated with the Company's executive, administrative, finance and human resource functions including salaries, benefits, stock-based compensation expense and occupancy costs. Other selling, general and administrative expenses include costs associated with prosecuting and maintaining the Company's patent portfolio, corporate legal expenses, costs required for public company activities and infrastructure necessary for the general conduct of the Company's business. The Company's selling, general and administrative expenses also include OTIPRIO product support expenses, and profit-sharing fees payable to the Company's partner, which are reduced by payments received from our partner under the Company's co-promotion agreement.

Stock-Based Compensation

The Company accounts for stock-based compensation expense related to stock options and employee stock purchase plan (ESPP) rights by estimating the fair value on the date of grant using the Black-Scholes-Merton option pricing model. Forfeitures are recognized as incurred. For awards subject to time-based vesting conditions, stock-based compensation expense is recognized using the straight-line method. For performance-based awards to employees, (i) the fair value of the award is determined on the grant date, (ii) we assess the probability of the individual performance milestones under the award being achieved and (iii) the fair value of the shares subject to the milestone is expensed over the implicit service period commencing once management believes the performance criteria is probable of being met.

Income Taxes

The accounting guidance for uncertainty in income taxes prescribes a recognition threshold and measurement attribute criteria for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more likely than not to be sustained upon examination by taxing authorities based on the technical merits of the position.

The Company uses the liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial reporting and the tax reporting basis of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. The Company provides a valuation allowance against net deferred tax assets unless, based upon the available evidence, it is more likely than not that the deferred tax assets will be realized. When the Company establishes or reduces the valuation allowance against its deferred tax assets, its provision for income taxes will increase or decrease, respectively, in the period such determination is made.

Comprehensive Loss

Comprehensive loss is defined as the change in equity during a period from transactions and other events and/or circumstances from non-owner sources.

Net Loss Per Share

Basic net loss per common share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and potentially dilutive securities outstanding for the period determined using the treasury-stock and if-converted methods. For purposes of the diluted net loss per share

calculation, potentially dilutive securities are excluded from the calculation of diluted net loss per share because their effect would be anti-dilutive and therefore, basic and diluted net loss per share were the same for all periods presented. As of the three and nine months ended September 30, 2018 and 2017, potentially dilutive securities excluded from the calculations of diluted net loss per share consisted of options to purchase 4,951,714 and 5,512,008 shares of common stock, respectively.

Recent Accounting Pronouncements

Not Yet Adopted

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, Leases (ASU 2016-02). ASU 2016-02 provides accounting guidance for both lessee and lessor accounting models. Among other things, lessees will recognize a right-of-use asset and a lease liability for leases with a duration of greater than one year. For statement of operations purposes, ASU 2016-02 will require leases to be classified as either operating or finance. Operating leases will result in straight-line expense while finance leases will result in a front-loaded expense pattern. The new standard will be effective for the Company on January 1, 2019 and will be adopted by recognizing a cumulative effect adjustment to the opening balance of retained earnings as of that date. The effect of adoption on the Company's financial statements will depend on the leases in effect and the Company's borrowing rates at that time, but based on the Company's existing leases, adoption is expected to result in a significant increase in assets and liabilities on the balance sheet, and no significant change to operating expenses.

In February 2018, the FASB issued ASU No. 2018-02, Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (ASU 2018-02). ASU 2018-02 provides the option to reclassify stranded tax effects within accumulated other comprehensive income to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Reform (or portion thereof) is recorded. ASU 2018-02 is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted for any interim period for which financial statements have not been issued. The Company does not expect the adoption of ASU 2018-02 to have a material impact on the Company's financial position, results of operations or cash flows due to the presence of a full valuation allowance. However, the Company is in the process of evaluating the impact of this new guidance on the Company's financial statements and disclosures.

In June 2018, the FASB issued ASU No. 2018-07, Compensation – Stock Compensation (Topic 718) – Improvements to Nonemployee Share-Based Payment Accounting (ASU 2018-07). The amendments in ASU 2018-07 expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. ASU 2018-07 will be effective for the Company for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year and early adoption is permitted. The Company does not expect the adoption of ASU 2018-07 to have a material impact on its financial position, results of operations or cash flows.

In August 2018, the SEC adopted the final rule under SEC Release No. 33-10532 (the SEC Release), Disclosure Update and Simplification, amending certain disclosure requirements that were redundant, duplicative, overlapping, outdated or superseded. In addition, the amendments expanded the disclosure requirements on the analysis of stockholders' equity for interim financial statements. Under the amendments, an analysis of changes in each caption of stockholders' equity presented in the balance sheet must be provided in a note or separate statement. The analysis should present a reconciliation of the beginning balance to the ending balance of each period for which a statement of comprehensive income is required to be filed. The Company will defer presenting its analysis of stockholders’ equity in its quarterly report in Form 10-Q until the quarter ended March 31, 2019.

3. Available-for-Sale Securities

The Company invests in available-for-sale debt securities consisting of money market funds, certificates of deposit, U.S. Treasury securities and U.S. government sponsored enterprise securities. Available-for-sale debt securities are classified as part of either cash and cash equivalents or short-term investments in the condensed balance sheets. Available-for-sale debt securities with maturities of three months or less from the date of purchase have been classified as cash equivalents, and were $18.1 million and $10.5 million as of September 30, 2018 and December 31, 2017 respectively. Available-for-sale debt securities with maturities of more than three months from the date of purchase have been classified as short-term investments, and were as follows (in thousands):

	Amortized Cost	Unrealized Gain	Unrealized Loss	Market Value
September 30, 2018:				
U.S. Treasury securities	$ 62,230	$ —	$ (45)	$ 62,185
U.S. government sponsored enterprise securities	8,998	—	(3)	8,995
	$ 71,228	$ —	$ (48)	$ 71,180
December 31, 2017:				
U.S. Treasury securities	$ 39,209	$ —	$ (44)	$ 39,165
U.S. government sponsored enterprise securities	62,439	—	(56)	62,383
	$ 101,648	$ —	$ (100)	$ 101,548

As of September 30, 2018, the Company had 35 securities in a gross unrealized loss position, all which have been in such position for less than twelve months. At each reporting date, the Company performs an evaluation of impairment

to determine if the unrealized losses are other-than-temporary. Factors considered in determining whether a loss is other-than-temporary include the length of time and extent to which fair value has been less than the cost basis, the financial condition of the issuer, and the Company's intent and ability to hold the investment until recovery of its amortized cost basis. Otonomy intends and has the ability, to hold its investments in unrealized loss positions until their amortized cost basis has been recovered. The Company determined there were no other-than-temporary declines in the value of any available-for-sale securities as of September 30, 2018. All the Company's available-for-sale debt securities mature within one year.

4. Balance Sheet Details

Prepaid and Other Current Assets

Prepaid and other current assets are comprised of the following (in thousands):

	September 30, 2018	December 31, 2017
Prepaid clinical trial costs	$ 258	$ 729
Other	2,155	1,605
Total	$ 2,413	$ 2,334

Property and Equipment, Net

Property and equipment, net is comprised of the following (in thousands):

	September 30, 2018	December 31, 2017
Laboratory equipment	$ 3,756	$ 3,457
Manufacturing equipment	1,015	871
Computer equipment and software	767	731
Leasehold improvements	736	733
Office furniture	1,548	1,581
	7,822	7,373
Less: accumulated depreciation	(3,553)	(2,694)
Total	$ 4,269	$ 4,679

Accrued Expenses

Accrued expenses are comprised of the following (in thousands):

	September 30, 2018	December 31, 2017
Accrued clinical trial costs	$ 1,004	$ 1,112
Accrued other	2,562	2,769
Total	$ 3,566	$ 3,881

5. Restructuring Charges

In November 2017, the Company initiated a restructuring plan to focus resources on its development programs and eliminate the cash burn associated with OTIPRIO promotional support. The actions associated with the restructuring were substantially completed in December 2017 and, as a result, the Company recorded a restructuring charge of $3.8

million to selling, general and administrative expense. Restructuring costs primarily include severance costs, including severance payments and outplacement services, health insurance coverage and $1.0 million in stock-based compensation expense associated with accelerated vesting pursuant to the original terms of the Company's employment agreement with its Chief Medical Officer. As of September 30, 2018 and December 31, 2017, accrued and unpaid severance costs totaled approximately $0.1 million and $1.5 million, respectively. During the nine months ended September 30, 2018, the Company paid approximately $1.4 million in severance costs.

6. Commitments and Contingencies

Intellectual Property Licenses

The Company has acquired exclusive rights to develop patented rights, information rights and related know-how for OTIPRIO, OTIVIDEX, OTO-313 and OTO-413 and potential future product candidates under licensing agreements with third parties. The licensing rights obligate the Company to make payments to the licensors for license fees, milestones and royalties. The Company is also responsible for patent prosecution costs, in the event such costs are incurred. Under one of these agreements, the Company has achieved six development milestones and one regulatory milestone, totaling $2.8 million, related to its clinical trials for OTIPRIO, OTIVIDEX and OTO-311.

The Company may be obligated to make additional milestone payments under the Company's intellectual property license agreements as follows (in thousands):

Development	$1,600
Regulatory	10,275
Commercialization	1,000
Total	$12,875

In addition, the Company is obligated to pay royalties of less than five percent on net sales of OTIPRIO and on sales of any other commercial products developed using these licensed technologies. Such royalty expense for OTIPRIO is recorded to cost of product sales. The Company may also be obligated to pay to the licensors a percentage of fees received if and when the Company sublicenses the technology. As of September 30, 2018, the Company has not entered into any sublicense agreements for the licensed technologies.

Other Royalty Arrangements

The Company entered into an agreement related to OTIPRIO under which the Company is obligated to pay a one-time milestone payment of $0.5 million upon the first commercial sale of OTIPRIO and to pay royalties of less than one percent on net product sales of OTIPRIO. This milestone payment was paid during March 2016 and both this milestone payment and the royalties are recorded as selling, general and administrative expense. The royalties are payable until the later of: (i) the expiration of the last to expire patent owned by the Company in such country covering OTIPRIO; or (ii) 10 years after the first commercial sale of OTIPRIO after receipt of regulatory approval for OTIPRIO in such country.

During October 2014, the Company entered into an exclusive license agreement with Ipsen that enables the Company to use clinical and non-clinical gacyclidine data generated by Ipsen to support worldwide development and regulatory filings for OTO-313. Under this license agreement, the Company is obligated to pay Ipsen low single-digit royalties on annual net sales of OTO-313 by the Company or its affiliates or sublicensees, up to a maximum cumulative royalty totaling $10.0 million.

7. Fair Value

The accounting guidance defines fair value, establishes a consistency framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring basis or nonrecurring basis. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date. Accounting guidance establishes a three-tier fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. These tiers are based on the source of the inputs and are as follows:

Level 1: Observable inputs such as quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs other than quoted prices in active markets that are observable either directly or indirectly.

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

As of September 30, 2018 and December 31, 2017 the Company held no assets or liabilities measured at fair value on a nonrecurring basis and no liabilities measured at fair value on a recurring basis. The following fair value hierarchy table presents the Company's assets measured at fair value on a recurring basis (in thousands):

	Fair Value Measurement at Reporting Date Using			
	Total	Level 1	Level 2	Level 3
September 30, 2018:				
Assets				
Money market funds	$18,087	$18,087	$—	$ —
U.S. Treasury securities	62,185	62,185	—	—
U.S. government sponsored enterprise securities	8,995	—	8,995	—
	$89,267	$80,272	$8,995	$ —
December 31, 2017:				
Assets				
Money market funds	$10,494	$10,494	$—	$ —
U.S. Treasury securities	39,165	39,165	—	—
U.S. government sponsored enterprise securities	62,383	—	62,383	—
	$112,042	$49,659	$62,383	$ —

8. Stockholders' Equity

Common Stock Reserved for Future Issuance

Shares of common stock reserved for future issuance are as follows:

	September 30, 2018	December 31, 2017
Common stock options issued and outstanding	4,951,714	4,599,252
Common stock options available for future grant	4,560,271	3,403,597
Common stock reserved for issuance under ESPP	1,698,108	1,292,327
Total common stock reserved for future issuance	11,210,093	9,295,176

9. Stock-Based Compensation

The 2014 Plan permits the grant of incentive stock options to the Company's employees and the grant of nonstatutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to the Company's employees, directors and consultants. Options granted under the 2014 Plan are generally scheduled to vest over four years, subject to continued service, and subject to certain acceleration of vesting provisions, expire no later than 10 years from the date of grant. Options granted under the 2014 Plan must have a per

share exercise price equal to at least 100% of the fair market value of a shares of the common stock as of the date of grant.

The following table summarizes stock option activity for the nine months ended September 30, 2018 (share amounts in thousands):

	Options	Weighted-Average Exercise Price
Outstanding as of December 31, 2017	4,599	$ 14.28
Granted	3,602	$ 5.70
Exercised	(19)	$ 1.69
Forfeited	(3,231)	$ 18.00
Outstanding as of September 30, 2018	4,951	$ 5.66

Performance-based Awards

In February 2018, the Company granted its chief executive officer a stock option for the purchase of 250,000 shares of the Company's common stock which is subject to time-based vesting and certain performance-based conditions. Specifically, subject to continued service the option will vest upon achievement of a clinical development milestone. On the grant date, the Company determined the fair value of the award and determined achievement of the milestone was probable of occurrence. The Company is recognizing stock-based compensation expense, based upon the grant date fair value, over the implicit service period. If the Company determines the achievement of the milestone is not probable, it will reverse all previously recognized expense.

Option Exchange

On December 20, 2017, the Company commenced an option exchange program (Option Exchange) which allowed eligible employees to exchange certain outstanding stock options (Eligible Options), whether vested or unvested, with an exercise price greater than $12.00 per share (Exchange Offer), for new stock options. Non-employee members of our Board of Directors were not eligible to participate in the Option Exchange. The Program expired on January 19, 2018, with a closing price of $5.675 per share.

Pursuant to the terms and condition of the Exchange Offer, the Company accepted for exchange Eligible Options to purchase a total of 1,992,000 shares of the Company's common stock, representing approximately 81.51% of the total shares of common stock underlying the Eligible Options. All surrendered options were canceled effective as of the expiration of the Exchange Offer and in exchange the Company granted new options to purchase an aggregate of 1,570,328 shares of the Company's common stock pursuant to the terms of the Exchange Offer and the Company's 2014 Equity Incentive Plan.

These new options vest over one to three years, subject to the terms of the Option Exchange and expire eight years from the date of grant. The Company determined this option exchange was an option modification. The exchange of these stock options was treated as a modification for accounting purposes. The difference in the fair value of the canceled options immediately prior to the cancellation and the fair value of the modified options resulted in incremental value, of approximately $0.6 million, which was calculated using the Black-Scholes-Merton option pricing model. Total stock-based compensation expense to be recognized over the requisite service period is equal to remaining unrecognized expense for the exchanged option, as of the exchange date, plus the incremental value of the modification to the award.

Total non-cash stock-based compensation expense recognized in the accompanying condensed statements of operations is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Cost of product sales	$3	$4	$9	$16
Research and development	1,037	823	3,372	3,167
Selling, general and administrative	1,770	2,424	6,580	7,285
Total stock-based compensation	$2,810	$3,251	$9,961	$10,468

10. Co-Promotion Agreement

On August 2, 2018, the Company entered into the Co-Promotion Agreement with Mission that provides Mission with an exclusive right to promote OTIPRIO for AOE in pediatrician and primary care physician offices as well as urgent care clinics in the United States. The initial term of the Co-Promotion Agreement is five years with provisions for extension and early termination.

The Co-Promotion Agreement is within the scope of ASC 808, as the parties are active participants and exposed to the risks and rewards of the collaborative activity. Mission will make annual non-refundable, non-creditable payments to the Company during each of the first five years of the Co-Promotion Agreement as partial consideration of the OTIPRIO product support activities provided by the Company and as reimbursement for certain expenses incurred by the Company to obtain and maintain FDA approval for use of OTIPRIO in AOE. In addition, Mission will reimburse the Company for a proportion of product support expenses as agreed upon by both parties. All such payments are recognized proportionately with the performance of the underlying services and accounted for as reductions to selling, general and administrative expense. Mission has agreed to bear the costs incurred for its promotion of OTIPRIO. In exchange for its promotional services, Mission is entitled to receive a share of gross profits totaling more than 50% from the sale of OTIPRIO to Mission's accounts. The Company’s payments to Mission for its portion of the gross profit will be recognized as selling, general and administrative expense in the Company’s condensed statement of operations. The Company is the principal in the product sale of OTIRPRIO to customers and will continue to recognize all revenue and related cost of product sales.

The Company does not consider performing product support services for its partner to be a part of its ongoing major or central operations and, thus, the associated payments are not considered revenue, nor do they fall under ASC 606. The Company considers these activities to be collaborative activities under the scope of ASC 808, and recognizes the shared profits and losses in the periods such profits and losses occur. For the three and nine months ended September 30, 2018, the Company recognized a $0.1 million reduction in selling, general and administrative expenses due to the Co-Promotion Agreement with Mission.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read together with our financial statements and the other financial information appearing elsewhere in this Quarterly Report on Form 10-Q. These statements generally relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. The following discussion and analysis contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Our actual results and the timing of events may differ materially from those discussed in our forward-looking statements as a result of various factors, including those discussed below and those discussed in the section titled "Risk Factors" included in this Quarterly Report on Form 10-Q.

Forward-looking statements include, but are not limited to, statements about:

- our expectations regarding our OTIPRIO promotional partnership;
- our expectations regarding our clinical development of OTIVIDEX, including availability of top-line results from the recently initiated additional Phase 3 trial in the first half of 2020;
- our expectations regarding the clinical development of OTO-313, including but not limited to our plans to initiate a Phase 1/2 clinical trial in tinnitus patients in the first half of 2019;
- our expectations regarding the clinical development of OTO-413, including but not limited to our plans to initiate a Phase 1/2 clinical trial in hearing loss patients in the first half of 2019;
- the timing or likelihood of regulatory filings and approvals;
- our expectations regarding the future development of other product candidates, including but not limited to our plans to select a candidate for clinical development for both the OTO-5XX and OTO-6XX programs by the end of 2018;
- the potential for commercialization of our product candidates, if approved;
- our expectations and statements regarding the pricing, market size, opportunity and growth potential for OTIVIDEX, OTO-313, OTO-413 and our other product candidates, if approved for commercial use;
- our expectations and statements regarding the adoption and use of OTIPRIO and OTIVIDEX, OTO-313 and OTO-413, if approved, by ear, nose and throat physicians (ENTs);
- our expectations regarding potential coverage and reimbursement relating to OTIPRIO, and OTIVIDEX, OTO-313 and OTO-413, if approved, or any other approved product candidates;
- our plans regarding the use of contract manufacturers for the production of our product candidates for clinical trials and, if approved, commercial use;
- our plans and ability to effectively establish and manage our own sales and marketing capabilities, or seek and establish collaborative partners, to commercialize our products;
- our ability to advance product candidates into, and successfully complete, clinical trials;
- the implementation of our business model, strategic plans for our business, products and technology;
- the initiation, timing, progress and results of future nonclinical studies and clinical trials;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our products and technology;
- estimates of our expenses, future revenue, capital requirements and our needs for additional financing;
- our financial performance;
- accounting principles, policies and estimates;
- developments and projections relating to our competitors and our industry; and
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act.

These forward-looking statements are subject to a number of risks, uncertainties, and assumptions, including but not limited to: our limited operating history and our expectation that we will incur significant losses for the foreseeable future; our ability to obtain additional financing; our dependence on the commercial success of OTIPRIO and the regulatory success and advancement of additional product candidates, such as OTIVIDEX, OTO-313 and OTO-413, the uncertainties inherent in the clinical drug development process, including, without limitation, our ability to adequately demonstrate the safety and efficacy of our product candidates, the nonclinical and clinical results for our product candidates, which may not support further development, and challenges related to patient enrollment in clinical trials; our ability to obtain regulatory approval for our product candidates; side effects or adverse events associated with our product candidates; competition in the biopharmaceutical industry; our dependence on third parties to conduct nonclinical studies and clinical trials; the timing and outcome of hospital pharmacy and therapeutics reviews and other facility reviews; the impact of coverage and reimbursement decisions by third-party payors on the pricing and market acceptance of OTIPRIO; our dependence on third parties for the manufacture of OTIPRIO and product candidates; our dependence on a small number of suppliers for raw materials; our ability to protect our intellectual property related to OTIPRIO and our product candidates in the United States and throughout the world; expectations regarding potential market size, opportunity and growth; our ability to manage operating expenses; implementation of our business model and strategic plans for our business, products and technology; and other risks. In some cases, you can identify these statements by terms such as “anticipate,” “believe,” “could,” “estimate,” “expects,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, a expressions that convey uncertainty of future events or outcomes. These forward-looking statements reflect our beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this Quarterly Report on Form 10-Q and are subject to risks and uncertainties. We discuss many of these risks in greater detail in the section titled “Risk Factors” included in Part II, Item 1A and elsewhere in this report. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We qualify all the forward-looking statements in this Quarterly Report on Form 10-Q by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

Otonomy, the Otonomy logo, OTIPRIO, OTIVIDEX and other trademarks or service marks of Otonomy appearing in this report are the property of Otonomy. Trade names, trademarks and service marks of other companies appearing in this report are the property of their respective holders. We have generally omitted the ®, ™ and other designations, as applicable, in this report.

Overview

We are a biopharmaceutical company dedicated to the development of innovative therapeutics for otology. We pioneered the application of drug delivery technology to the ear in order to develop products that achieve sustained drug exposure from a single local administration. This approach is covered by a broad patent estate and is being utilized to develop a pipeline of products addressing important unmet medical needs including Ménière’s disease, hearing loss and tinnitus.

OTIVIDEX is a steroid in development for the treatment of Ménière’s disease. Two Phase 3 trials in Ménière’s disease patients were completed in the second half of 2017. The AVERTS-2 trial, conducted in Europe, achieved its primary endpoint (p value = 0.029) while the AVERTS-1 trial, conducted in the United States, did not (p value = 0.62). Based on a Type C meeting with the FDA, we believe that one additional successful pivotal trial is sufficient to support the U.S. registration of OTIVIDEX in Ménière’s disease, and recently announced the initiation of such trial. We expect

top-line results from this trial in the first half of 2020.

OTO-313 is a formulation of the potent and selective NMDA receptor antagonist gacyclidine that is in development for the treatment of tinnitus. A Phase 1 clinical safety trial has been successfully completed using OTO-311, a poloxamer-based formulation of gacyclidine, with no safety concerns observed. We have shifted development to OTO-313, an alternative formulation of gacyclidine that has improved properties compared to OTO-311. We expect to initiate a Phase 1/2 clinical trial for OTO-313 in tinnitus patients in the first half of 2019.

We are advancing three distinct hearing loss programs that address different pathologies and broad patient populations. OTO-413 is a sustained exposure formulation of BDNF in development for the repair of cochlear synaptopathy and the treatment of speech-in-noise hearing difficulties. We have initiated nonclinical studies and manufacturing for OTO-413 to support an Investigational New Drug Application, with a Phase 1/2 clinical trial in hearing loss patients expected to begin in the first half of 2019. OTO-5XX is an otoprotectant in development for the prevention of cisplatin induced hearing loss. OTO-6XX induces hair cell regeneration in a nonclinical proof-of-concept model and is being developed for the treatment of severe hearing loss. We expect to select a candidate for clinical development for both the OTO-5XX and OTO-6XX programs by the end of 2018.

In addition, we developed, received FDA approval for and commercially launched OTIPRIO (ciprofloxacin otic suspension) for use during tympanostomy tube placement (TTP) surgery in pediatric patients. OTIPRIO was also approved by the FDA for the treatment of acute otitis externa (AOE). In November 2017, we announced the discontinuation of promotional support for OTIPRIO in order to significantly reduce operating expenses related to the product. In August 2018 the Company announced the initiation of a partnership (Co-Promotion Agreement) with privately held Mission Pharmacal Company (Mission) to support the promotion of OTIPRIO for the treatment of AOE in pediatrician and primary care physician offices as well as urgent care clinics in the United States.

We have a limited operating history. Since our inception in 2008, we have devoted substantially all our efforts to developing and commercializing OTIPRIO, developing our current product candidates, and providing general and administrative support for these operations. As of September 30, 2018, we had cash, cash equivalents and short-term investments of $92.6 million.

We have never been profitable, and as of September 30, 2018, we had an accumulated deficit of $402.4 million. Our net losses were $12.5 million and $21.0 million for the three months ended September 30, 2018 and 2017, respectively, and $37.5 million and $71.3 million for the nine months ended September 30, 2018 and 2017, respectively. Substantially all our net losses have resulted from research and development expenses related to our clinical trials and product development activities, commercialization expenses to launch OTIPRIO in the U.S. market, and other general and administrative expenses.

We expect to continue to incur significant expenses and operating losses for the foreseeable future as we continue to develop, seek regulatory approval, and, if approved, commercialize our product candidates. In the near term, we anticipate our expenses will continue to be substantial as we:

- conduct clinical development of OTIVIDEX;
- conduct nonclinical and clinical development of OTO-313 and OTO-413;
- contract to manufacture our product candidates;
- evaluate opportunities for development of additional product candidates;
- maintain and expand our intellectual property portfolio;
- hire additional staff as necessary to execute our product development plan; and
- operate as a public company.

We will require additional financing to complete the development of and, if approved, commercialize, OTIVIDEX, OTO-313, OTO-413 and any other product candidates. We believe we will continue to expend substantial resources for the foreseeable future for the development of OTIVIDEX, OTO-313, OTO-413 and any other product candidates we may choose to pursue. These expenditures will include costs associated with marketing and selling any products approved for sale, manufacturing, preparing regulatory submissions, and conducting nonclinical studies and clinical trials. The amount and timing of our future funding requirements will depend on many factors, including the pace and results of our clinical development efforts, the timing and nature of the regulatory approval process for our product candidates, and the revenue generated by OTIPRIO and our other product candidates, if approved. When additional financing is required, we anticipate we will seek funding through public or private equity or debt financings or other sources, such as potential collaboration arrangements. We may not be able to raise capital on terms acceptable to us, or at all. Our failure to raise capital as and when needed could have a negative impact on our financial condition and our ability to pursue our business strategies. We believe our existing cash and cash equivalents and short-term investments will be sufficient to fund our currently planned operations for a period of at least twelve months from the date of this report.

In November 2008, we entered into an exclusive license agreement with the Regents of the University of California (UC). Under the license agreement, UC granted us an exclusive license under their rights to patents and applications that are co-developed and co-owned with us for the treatment of human otic diseases. Our financial obligations under

the license agreement include development and regulatory milestone payments of up to $2.7 million per licensed product, of which $1.9 million has been paid for OTIPRIO, $0.8 million has been paid for OTIVIDEX, and $0.1 million has been paid for OTO-311 (but such milestone payments are reduced by 75% for any orphan indication product), and a low single-digit royalty on net sales by us or our affiliates of licensed products. In addition, for each sublicense we grant we are obligated to pay UC a fixed percentage of all royalties as well as a sliding-scale percentage of non-royalty sublicense fees received by us under such sublicense, with such percentage depending on the licensed product's stage of development when sublicensed to such third party. We have the right to offset a certain amount of third-party royalties, milestone fees or sublicense fees against the foregoing financial obligations, provided such third-party royalties or fees are paid by us in consideration for intellectual property rights necessary to commercialize a licensed product.

In April 2013, we entered into an exclusive license agreement with DURECT Corporation (Durect), as part of an asset transfer agreement between us and IncuMed LLC, an affiliate of the NeuroSystec Corporation. Under this license agreement, Durect granted us an exclusive, worldwide, royalty-bearing license under Durect's rights to certain patents and applications covering our OTO-313 product candidate, as well as certain related know-how. Under this license agreement and the asset transfer agreement, we are obligated to make one-time milestone payments of up to $7.5 million for the first licensed product. Upon commercializing a licensed product, we are obligated to pay Durect tiered, low single-digit royalties on annual net sales by us or our affiliates or sublicensees of the licensed products, and we have the right to offset a certain amount of third-party license fees or royalties against such royalty payments to Durect. In addition, each sublicense we grant to a third party is subject to payment to Durect of a low double-digit percentage of all non-royalty payments we receive under such sublicense. Additionally, we are also obligated to pay the Institut National de la Sante et de la Recherche Medicale (INSERM), on behalf of Durect, for a low single-digit royalty payment on net sales by us or our affiliates or sublicensees upon commercialization of the licensed product. The foregoing royalty payment obligation to Durect would continue on a product-by-product and country-by-country basis until expiration or determination of invalidity of the last valid claim within the licensed patents that cover the licensed product, and the payment obligation to INSERM would continue so long as Durect's license from INSERM remains in effect.

Financial Operations Overview

Revenue

In December 2015, OTIPRIO was approved by the FDA for the treatment of pediatric patients with bilateral otitis media with effusion undergoing TTP surgery. In March 2016, we began sales of OTIPRIO in the United States to our network of specialty distributors who fill orders received from hospitals and ambulatory surgery centers who are the primary end users of OTIPRIO for use during TTP surgery. In November 2017, we announced the discontinuation of our promotional support for OTIPRIO, although the product continues to be available for purchase by customers. In March 2018, OTIPRIO was approved by the FDA for the treatment of AOE. In August 2018, we entered into a Co-Promotion Agreement with Mission that provides Mission with an exclusive right to promote OTIPRIO for AOE in pediatrician and primary care physician offices as well as urgent care clinics in the United States.

We recognize revenue on sales of OTIPRIO upon delivery to our distributors. Product sales are recorded net of estimated chargebacks, government rebates and distributor fees.

Prior to March 2016 we had not generated revenue. We do not expect to generate any revenue from any of our product candidates unless and until we obtain regulatory approval and commercialize our product candidates or enter into additional collaborative agreements with third parties.

Operating Expenses

Cost of product sales

Cost of product sales consists primarily of direct and indirect costs related to the manufacturing of OTIPRIO, including third-party manufacturing costs, allocation of overhead costs and royalty payments based on OTIPRIO sales. In 2017, OTIPRIO inventory values were written down due to the discontinuation of promotional support for the product indicating our expectation that the useful life and ability to recover inventory costs have decreased. Similarly, OTIPRIO manufacturing equipment was impaired.

Research and development expenses

Our research and development expenses primarily consist of costs associated with the nonclinical and clinical development of our product candidates and the development of OTIPRIO for additional indications. Our research and development expenses include:

- employee-related expenses, including salaries, benefits, travel and stock-based compensation expense;
- external development expenses incurred under arrangements with third parties, such as fees paid to contract research organizations (CROs) in connection with nonclinical studies and clinical trials, costs of acquiring and evaluating clinical trial data such as investigator grants, patient screening fees, laboratory work and statistical compilation and analysis, and fees paid to consultants and our scientific advisory board;
- costs to acquire, develop and manufacture clinical trial materials, including fees paid to contract manufacturers;
- payments related to licensed product candidates and technologies;

- costs related to compliance with drug development regulatory requirements; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation of leasehold improvements and equipment, and laboratory and other supplies.

We expense our internal and third-party research and development expenses as incurred.

The following table summarizes our research and development expenses (in thousands) for OTIPRIO and our current product candidates:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Third-party development costs:				
OTIPRIO	$—	$220	$98	$2,651
OTIVIDEX	2,034	4,024	3,339	14,037
OTO-311/OTO-313	332	354	1,511	374
OTO-413	1,224	—	3,031	—
Total third-party development costs	3,590	4,598	7,979	17,062
Other unallocated internal research and development costs	4,710	6,163	14,196	19,598
Total research and development costs	$8,300	$10,761	$22,175	$36,660

We expect our research and development expenses to continue to be substantial for the foreseeable future as we advance our product candidates through their respective development programs. The process of conducting nonclinical studies and clinical trials necessary to obtain regulatory approval is costly and time consuming. We may never succeed in achieving regulatory approval for our product candidates. The probability of success will be affected by numerous factors, including nonclinical data, clinical data, competition, manufacturing capability and commercial viability. We are responsible for all the research and development costs for our programs.

Completion dates and completion costs can vary significantly for each of our clinical development programs and are difficult to predict. We therefore cannot estimate with any degree of certainty the costs we will incur in connection with development of our product candidates. We anticipate that we will make determinations as to which programs and product candidates to pursue and how much funding to direct to each program and product candidate on an ongoing basis in response to the results of ongoing and future clinical trials, regulatory developments, and our ongoing assessments as to each current or future product candidate’s commercial potential. We may need to raise substantial additional capital in the future to complete the development of and, if approved, commercialize, our product candidates. We may enter into collaborative agreements in the future in order to conduct clinical trials and gain regulatory approval of our product candidates, particularly in markets outside of the United States. We cannot forecast which programs or product candidates may be subject to future collaborations, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans and overall capital requirements.

The costs of clinical trials may vary significantly over the life of a program owing to the following:

- per patient trial costs;
- the number of sites included in the trials;
- the countries in which the trials are conducted;
- the length of time required to enroll eligible patients;
- the number of patients that participate in the trials;
- the number of doses that patients receive;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- the duration of patient follow-up;
- the phase of development of the product candidate; and
- the efficacy and safety profile of the product candidate.

Selling, general and administrative expenses

Our selling, general and administrative expenses consist primarily of employee-related expenses, including salaries, benefits, travel and stock-based compensation expense, as well as other related costs for our employees and consultants in executive, administrative, finance and human resource functions. Other selling, general and administrative expenses include facility-related costs not otherwise included in research and development, costs associated with prosecuting and maintaining the Company's patent portfolio and corporate legal expenses, costs required for public company activities and infrastructure necessary for the general conduct of the Company's business, and OTIPRIO product support expenses and profit-sharing fees payable to Mission, which are reduced by payments received from Mission under the Company's Co-Promotion Agreement.

We expect our selling, general and administrative expenses to be substantial as we support development of our product candidates, and as we incur ongoing expenses related to audit, legal, regulatory, and tax-related services associated with maintaining compliance with stock exchange listing and SEC requirements, director's and officer's liability insurance premiums, and investor relations-related expenses.

Other Income

Other income primarily consists of interest income earned on cash and cash equivalents and short-term investments.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our condensed financial statements. Our financial statements are prepared in accordance with generally accepted accounting principles in the United States of America. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and assumptions, including those related to net product sales, accrued expenses and stock-based compensation. We base our estimates on our historical experience, known trends and events and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe the estimates, assumptions and judgments involved in the accounting policies described in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC on March 8, 2018, have the greatest potential impact on our financial statements, so we consider them to be our critical accounting policies and estimates. Updates to these critical accounting policies and estimates are described below. In addition, effective January 1, 2018, the Company adopted ASC 606, as described below. ASC 606 replaces the Company's previous method of revenue recognition described.

Stock-based compensation

We recognize non-cash expense for the fair value of all stock options and other share-based awards. We use the Black-Scholes-Merton option valuation model to calculate the fair value of stock options, using the single-option award approach and straight-line attribution method. For options granted to employees and directors, we recognize the resulting fair value as expense on a straight-line basis over the vesting period of each respective stock option, generally four years.

We have granted stock options that vest upon achievement of certain performance criteria, or Performance Awards. For performance-based awards to employees, (i) the fair value of the award is determined on the grant date, (ii) we assess the probability of the individual performance milestones under the award being achieved and (iii) the fair value of the shares subject to the milestone is expensed over the implicit service period commencing once management believes the performance criteria is probable of being met.

In January 2018 we completed an option exchange program (Option Exchange) which allowed eligible employees to exchange certain outstanding stock options (Eligible Options), whether vested or unvested, with an exercise price greater than $12.00 per share (Exchange Offer), for new stock options. These new options vest over one to three years, subject to the terms of the Option Exchange and expire eight years from the date of grant. The Company determined this option exchange was an option modification. The exchange of these stock options was treated as a modification for accounting purposes. The difference in the fair value of the canceled options immediately prior to the cancellation and the fair value of the modified options resulted in incremental value, of approximately $0.6 million, which was calculated using the Black-Scholes-Merton option pricing model. Total stock-based compensation expense to be recognized over the requisite service period is equal to remaining unrecognized expense for the exchanged option, as of the exchange date, plus the incremental value of the modification to the award.

Revenue Recognition

Our accounting for revenue under ASC 606 is materially consistent with the accounting for revenue under ASC 605 and therefore the cumulative effect of adoption was immaterial.

To determine revenue recognition for arrangements within the scope of ASC 606, we perform the following five steps: (i) identify the contract(s) with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations in the contract, and (v) recognize revenue when (or as) we satisfy a performance obligation. We only apply the five-step model to arrangements that meet the definition of a contract with a customer under ASC 606 and when it is probable we will collect the consideration exchanged for the goods or services transferred to the customer. At contract inception, we assess the goods or services promised within each contract and determine those that are performance obligations, and then we assess whether each promised good or service is distinct. We recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when the performance obligation is satisfied.

OTIPRIO is sold to a limited number of specialty wholesale distributors. We recognize revenue when our customer obtains control of our product, typically upon delivery to these distributors. We have determined the delivery of OTIPRIO to our customers constitutes a single performance obligation and no other performance obligations are present. Our customer contracts have standard payment terms. We do not offer prompt pay discounts or financing on our sales and have not identified any credit risk issues.

Hospitals, ambulatory surgery centers and physician offices order OTIPRIO from our distributors and are the end users of OTIPRIO. We permit product returns from the distributors only if the product is damaged or is shipped or ordered in error. Product returns based on expiry are not permitted. To date, returns have been immaterial.

Sales commissions and other incremental costs of obtaining customer contracts are expensed as incurred as the amortization periods would be less than one year or the amount is immaterial.

Transaction Price and Reserves for Variable Consideration

Revenues from product sales are recorded at the net sales price (transaction price), which includes estimates of variable consideration for which reserves are established. Components of variable consideration include trade discounts and allowances, government chargebacks, discounts and rebates, and other fee for service amounts that are detailed within our contracts with our customers relating to the sale of OTIPRIO. These reserves, as detailed below, are based on the amounts earned or accrued on our sales. Variable consideration is estimated using the most likely method, which is the single most likely outcome under our contracts and takes into consideration contractual fees, historical chargeback activity and historical Medicaid rebates. Overall, these reserves reflect our best estimates of the amount of consideration to which we are entitled based on the terms of the respective underlying contracts.

The amount of variable consideration included in the transaction price may be constrained and is included in the net sales price only to the extent that it is probable a significant reversal in the amount of the cumulative revenue recognized under the contract will not occur in a future period. Our analyses also contemplate application of the constraint in accordance with the guidance, under which we determined a material reversal of revenue would not occur in a future period. Reserves are established for these discounts and allowances upon delivery of OTIPRIO by the distributor and are classified as: (i) an allowance against accounts receivable if the amount is payable to the distributor or (ii) an accrued liability if the amount is payable to a party other than the distributor. Allowances against accounts receivable relate to chargebacks and distributor fees and accruals relate primarily to government rebates. Actual amounts of consideration ultimately received may differ from our estimates. If actual results in the future vary

from our original estimates, we will adjust these estimates, which would affect net product revenue and earnings in the period such variances become known.

Trade Discounts and Allowances. Our customers are specialty wholesale distributors with whom we have contracted to pay a fee based on a percentage of wholesale acquisition cost for sales order management, data, and distribution services. We have determined such services received to date are not distinct from our sale of products to our customers and, therefore, these payments have been recorded as a reduction of revenue within the statement of operations. This fee for service is recorded as an allowance against accounts receivable at the time of sale based on the contracted percentage.

Chargebacks. We estimate allowances against accounts receivable for chargebacks related to agreements with group purchasing organizations and federal contracts. Under these agreements, we credit distributors a chargeback amount which represents the difference between the wholesale acquisition cost and the discounted price at which eligible purchasers purchased from the distributors. At the time of sale, estimated chargebacks are recorded based on historical chargeback activity, the projected payer mix, patient population industry data and the identification of entities purchasing OTIPRIO which are eligible for discounted pricing.

Government Rebates. We estimate a rebate liability in connection with a Medicaid Drug Rebate Agreement with the Centers for Medicare & Medicaid Services, which provides a rebate to participating states based on covered purchases of OTIPRIO. At the time of sale, estimated Medicaid rebates are recorded based on historical government rebate activity, the projected payer mix, and Medicaid patient population industry data.

Results of Operations

Comparison of the Three Months Ended September 30, 2018 and 2017

The following table sets forth the significant components of our results of operations for the periods presented (in thousands):

	Three Months Ended September 30,		
	2018	2017	Change
Product sales, net	$113	$282	$(169)
Cost of product sales	162	290	(128)
Research and development	8,300	10,761	(2,461)
Selling, general and administrative	4,652	10,548	(5,896)

Product sales, net. OTIPRIO is sold in the United States upon delivery to our network of specialty distributors who fill orders received from hospitals and ambulatory surgery centers, who are the primary end user customers of OTIPRIO for use during TTP surgery. For the three months ended September 30, 2018 and 2017, our net product sales represent revenues for OTIPRIO sold to our distributors during this period. Product sales are recorded net of estimated chargebacks, government rebates and distributor fees. On March 2, 2018, OTIPRIO was approved for use in the treatment of AOE which will be administered in physician offices.

Research and development expenses. The decrease of $2.5 million in research and development expenses was primarily due to a net $2.0 million decrease in OTIVIDEX clinical trial and development costs due to the completion and early termination of our OTIVIDEX clinical trials in 2017, partially offset by an increase in clinical trial costs from the OTIVIDEX Phase 3 trial initiated in the third quarter of 2018; a decrease of $0.9 million in other research and development costs, including professional services; a $0.6 million decrease in personnel-related costs due to a reduction in headcount; and a $0.2 million decrease in OTIPRIO related expenses. These decreases were partially offset by a $1.2 million increase in research costs for our sensorineural hearing loss program.

Selling, general and administrative expenses. The decrease of $5.9 million in selling, general and administrative expenses was primarily related to reduced employee-related expenses of approximately $3.7 million, resulting mostly from reductions in commercial personnel during 2017 and 2018, and a $2.2 million decrease in outside services and other operating expenses due to the discontinuation of promotional support for OTIPRIO.

Comparison of the Nine Months Ended September 30, 2018 and 2017

The following table sets forth the significant components of our results of operations for the periods presented (in thousands):

	Nine Months Ended September 30,		
	2018	2017	Change
Product sales, net	$537	$966	$(429)
Cost of product sales	675	1,150	(475)
Research and development	22,175	36,660	(14,485)
Selling, general and administrative	16,428	35,387	(18,959)

Product sales, net. OTIPRIO is sold in the United States upon delivery to our network of specialty distributors who fill orders received from hospitals and ambulatory surgery centers, who are the primary end user customers of OTIPRIO for use during TTP surgery. For the nine months ended September 30, 2018 and 2017, our net product sales represent revenues for OTIPRIO sold to our distributors during this period. Product sales are recorded net of estimated chargebacks, government rebates and distributor fees. On March 2, 2018, OTIPRIO was approved for use in the treatment of AOE which will be administered in physician offices.

Cost of product sales. Cost of product sales decreased $0.5 million primarily due to lower sales volumes during the nine months ended September 30, 2018 and a write-down of excess inventory during the nine months ended September 30, 2017 of $0.2 million. There were no write-downs of excess inventory in 2018.

Research and development expenses. The decrease of $14.5 million in research and development expenses was primarily due to a net $10.7 million decrease in OTIVIDEX clinical trial and development costs due to the completion and early termination of our OTIVIDEX clinical trials in 2017, partially offset by an increase in clinical trial costs from the OTIVIDEX Phase 3 initiated in the third quarter of 2018; a decrease of $2.9 million in other research and development costs, including professional services; a $2.5 million decrease in OTIPRIO clinical trial and regulatory expenses associated with the label expansion for AOE; and a $2.5 million decrease in personnel-related costs due to a reduction in headcount. These decreases were partially offset by an increase of $3.0 million in research costs for our sensorineural hearing loss program; and a $1.1 million increase in development expenses related to OTO-313.

Selling, general and administrative expenses. The decrease of $19.0 million in selling, general and administrative expenses was primarily related to reduced employee-related expenses of approximately $14.4 million, resulting mostly from reductions in commercial personnel during 2017 and 2018 and a $6.2 million decrease in outside services and other operating expenses due to the discontinuation of promotional support for OTIPRIO. These decreases were partially offset by one-time termination benefits including one-time stock compensation expense, totaling approximately $1.6 million incurred during the nine months ended September 30, 2018.

Liquidity and Capital Resources

We have incurred significant losses and negative cash flows from operations since our inception. As of September 30, 2018, we had an accumulated deficit of $402.4 million and we expect to continue to incur significant losses for the foreseeable future. We expect our research and development and selling, general and administrative expenses to continue to be substantial for the foreseeable future and, as a result, we will need additional capital to fund our operations, which we may obtain through one or more public or private equity or debt financings, or other sources such as potential collaboration arrangements.

As of September 30, 2018, we had cash, cash equivalents and short-term investments of $92.6 million. We have principally financed our operations through sales and issuances of our equity securities as well as private placements of redeemable convertible preferred stock and convertible notes.

The following table sets forth a summary of the primary sources and uses of cash for the nine months ended September 30, (in thousands):

	2018	2017
Net cash (used in) provided by:		
Operating activities	$(28,051)	$(60,929)
Investing activities	30,285	53,561
Financing activities	229	549
Net increase (decrease) in cash	$2,463	$(6,819)

Operating activities. For both periods presented, the primary uses of cash were to fund development activities for our product candidates and in 2017 to support the commercialization of OTIPRIO.

During the nine months ended September 30, 2018, we used cash in operating activities of $28.0 million, while our net loss was $37.5 million. The difference consisted of $10.6 million of non-cash adjustments, primarily comprised of stock-based compensation expense and depreciation expense, which was partially offset by a $1.1 million net change in our operating assets and liabilities.

During the nine months ended September 30, 2017, we used cash in operating activities of $60.9 million, while our net loss was $71.3 million. The difference consisted of $14.0 million of non-cash adjustments, primarily comprised of stock-based compensation expense and deferred rent expense, which was partially offset by a $3.6 million net change in our operating assets and liabilities.

Investing activities. Net cash provided by investing activities was $30.3 million during the nine months ended September 30, 2018. $111.3 million was provided by maturities of short-term investments, which was partially offset by $80.5 million used to purchase short-term investments and $0.5 million used for capital expenditures.

Net cash provided by investing activities was $53.6 million during the nine months ended September 30, 2017. $161.1 million was provided by maturities of short-term investments, which was partially offset by $106.7 million used to purchase short-term investments and $0.8 million used for capital expenditures.

Financing activities. Net cash provided by financing activities was $0.2 million for the nine months ended September 30, 2018. During the nine months ended September 30, 2018, net cash provided by financing activities was for shares issued for stock option exercises and under our employee stock purchase plan.

Net cash provided by financing activities was $0.5 for the nine months ended September 30, 2017. During the nine months ended September 30, 2017, net cash provided by financing activities was for shares issued for stock option exercises and under our employee stock purchase plan.

Funding Requirements

We expect to continue to incur significant losses for the foreseeable future as we: (i) develop and seek regulatory approvals for our product candidates OTIVIDEX, OTO-313 and OTO-413; and (ii) work to develop additional product candidates through research and development programs. We are subject to all the risks incident in the development of new therapeutic products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business.

We believe that our existing cash and cash equivalents and short-term investments will be sufficient to fund our currently planned operations for a period of at least twelve months from the date of this report.

We will require additional financing to complete the development of and, if approved, commercialize OTIVIDEX, OTO-313, OTO-413 and any other product candidates. When additional financing is required, we anticipate that we will seek funding through public or private equity or debt financings or other sources, such as potential collaboration arrangements. We may not be able to raise capital on terms acceptable to us, or at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates. If we raise additional funds through the issuance of additional debt or equity securities, it could result in dilution to our existing stockholders, increased fixed payment obligations and the existence of securities with rights that may be senior to those of our common stock. If we incur indebtedness, we could become subject to covenants that would restrict our operations and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. Any collaboration agreements we enter into may provide capital in the near-term but limit our potential cash flow and revenue in the future. Any of the foregoing could significantly harm our business, financial condition and prospects.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. The amount and timing of future funding requirements, both near- and long-term, will depend on many factors, including:

- the revenue generated by OTIPRIO and our product candidates if approved;
- the costs related to manufacturing commercial supplies of OTIPRIO;
- the timing and costs of completing the remaining clinical development and obtaining regulatory approval for OTIVIDEX in Ménière’s disease;
- the design, initiation, progress, size, timing, costs and results of nonclinical studies and clinical trials for our other product candidates, including OTO-313 and OTO-413;
- the outcome, timing and cost of regulatory approvals by the FDA and comparable foreign regulatory authorities, including the potential for the FDA or comparable foreign regulatory authorities to require that we perform more studies than, or evaluate clinical endpoints other than, those that we currently expect;

- the timing and costs associated with manufacturing our product candidates for clinical trials, nonclinical studies and for commercial sale;
- the cost of building and maintaining sales, marketing and distribution capabilities for any products for which we may receive regulatory approval and commercialize, including related facilities expansion costs;
- the number and characteristics of product candidates that we pursue;
- the potential acquisition and in-licensing of other technologies, products or assets;
- the extent to which we are required to pay milestone or other payments under our in-license agreements and the timing of such payments;

- the cost of preparing, filing, prosecuting, maintaining, defending and enforcing any patent claims and other intellectual property rights, including litigation costs and the outcome of such litigation;
- our need to expand our development activities, including our need and ability to hire and adequately compensate additional employees;
- the costs associated with being a public company;
- the effect of competing technological and market developments; and
- the cost of litigation, including potential patent litigation.

If we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, financial condition and results of operations could be materially adversely affected.

Off-Balance Sheet Arrangements

During the periods presented we did not have, nor do we currently have, any off-balance sheet arrangements as defined under the applicable rules of the SEC.

Contractual Obligations and Commitments

During the nine months ended September 30, 2018, there were no material changes, outside of the ordinary course of business, in our contractual obligations from those disclosed in the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC on March 8, 2018.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Sensitivity

As of September 30, 2018, we had cash and cash equivalents and short-term investments of $92.6 million which are comprised of cash in checking and savings accounts, money market funds, U.S. Treasury securities and U.S. government-sponsored enterprise securities. The primary objective of our investment activities is to preserve principal and liquidity while maximizing income without significantly increasing risk. We do not acquire investments for trading or speculative purposes. We do not believe that an immediate 10% increase in interest rates would have a material effect on the fair market value of our portfolio, and therefore, we do not expect our operating results or cash flows to be materially affected to any degree by a sudden change in market interest rates.

Foreign Currency Exchange Rate Risk

To date, the vast majority of our contractual obligations have been denominated in U.S. dollars; however, we have contracts with CROs and investigational sites in countries within the European Union (EU) and are subject to fluctuations in foreign currency rates in connection with such contracts. In the future, we may contract with other CROs and investigational sites in foreign countries. We do not hedge our foreign currency exchange rate risk. To date, we have not incurred any material effects from foreign currency changes in connection with such contracts.

Inflation

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation has had a material effect on our business, financial condition or results of operations during the periods presented.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Management, with the participation of our Chief Executive Officer and our Chief Financial and Business Officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2018. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2018, our Chief Executive Officer and our Chief Financial and Business Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended September 30, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Disclosure Controls and Internal Control over Financial Reporting

Because of their inherent limitations, our disclosure controls and procedures and our internal control over financial reporting may not prevent material errors or fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. The effectiveness of our disclosure controls and procedures and our internal control over financial reporting is subject to risks, including that the controls may become inadequate because of changes in conditions or that the degree of compliance with our policies or procedures may deteriorate.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we may be involved in various claims and legal proceedings relating to claims arising out of our operations. We are not currently a party to any legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

ITEM 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as all other information included in this Quarterly Report on Form 10-Q, including our financial statements, the notes thereto and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations." If any of the following risks actually occurs, our business, financial condition, operating results, prospects and ability to accomplish our strategic objectives could be materially harmed. As a result, the trading price of our common stock could decline and you could lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations and the market price of our common stock.

Risks Related to Our Financial Condition and Capital Requirements

We have a limited operating history and have incurred significant losses since our inception, and we anticipate that we will continue to incur losses for the foreseeable future, which makes it difficult to assess our future viability.

We are a commercial-stage biopharmaceutical company with a limited operating history upon which you can evaluate our business and prospects. We are not profitable and have incurred losses in each year since we commenced operations in 2008. In addition, we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical industry. Drug development is a highly speculative undertaking and involves a substantial degree of risk. To date, we have obtained U.S. regulatory approval and launched a single product, OTIPRIO, but have not yet generated significant revenue. We continue to incur significant research and development expenses related to our clinical trials and product development activities and other selling, general and administrative expenses. We have recorded net losses of $37.5 million and $71.3 million for the nine months ended September 30, 2018 and 2017, respectively. As of September 30, 2018, we had an accumulated deficit of $402.4 million.

We have not yet generated significant product revenue and may never become profitable.

We expect to continue to incur significant losses for the foreseeable future. Our ability to achieve significant revenue and profitability is dependent on our ability to complete the development of our product candidates, obtain necessary regulatory approvals and successfully commercialize our products. We may never succeed in these activities and may never generate revenue that is significant or large enough to achieve profitability. We launched OTIPRIO in March

2016, but we have not generated significant revenue from sales of OTIPRIO, and in November 2017, we announced the discontinuation of our promotional support for OTIPRIO in TTP surgery. Recently, we announced the initiation of a partnership with Mission for the promotion of OTIPRIO to certain end users involved in the treatment of patients for AOE. Such partnership may not be successful. Even if we achieve profitability in the future, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital and any failure to become and remain profitable may adversely affect the market price of our common stock, our ability to raise capital, and our viability.

We may require additional financing to obtain regulatory approval for OTIVIDEX, OTO-313, OTO-413 and any other product candidates, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our commercialization efforts, product development, or other operations.

Since our inception, most of our resources have been dedicated to the development of OTIPRIO and our product candidates, OTIVIDEX, OTO-311 (now OTO-313) and OTO-413. In particular, conducting clinical trials for OTIVIDEX, OTO-313 and OTO-413 will require substantial funds. We have funded our operations primarily through the sale and issuance of common stock, convertible preferred stock and convertible notes. As of September 30, 2018, we had cash, cash equivalents and short-term investments of $92.6 million. We believe that we will continue to expend substantial resources for the foreseeable future for the continued development of OTIVIDEX, OTO-313, OTO-413 and any other product candidates we may choose to pursue. These expenditures will include costs associated with marketing and selling any products approved for sale, manufacturing, preparing regulatory submissions, and conducting nonclinical studies and clinical trials. We cannot estimate with reasonable certainty the actual amounts necessary to successfully complete the development and commercialization of our product candidates.

Our future capital requirements depend on many factors, including:

- the revenue generated by OTIPRIO and our product candidates, if approved;
- the timing of, and the costs involved in, nonclinical and clinical development and obtaining regulatory approvals for OTIVIDEX, OTO-313, OTO-413 or any other product candidates;
- the cost of manufacturing OTIPRIO and our product candidates;
- the cost of commercialization activities for our product candidates that may be approved for sale, if any, including marketing, sales and distribution costs;
- the number and characteristics of any other product candidates we develop or acquire;
- our ability to establish and maintain strategic collaborations, licensing, development or commercialization arrangements and the terms and timing of such arrangements;
- the degree and rate of market acceptance of OTIPRIO and any other approved products;
- the emergence, approval, availability, perceived advantages, relative cost, relative safety and relative efficacy of other products or treatments;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims and other intellectual property rights, including litigation costs and the outcome of such litigation;
- the extent to which we are required to pay milestone or other payments under our in-license agreements and the timing of such payments; and
- the cost of litigation, including any product liability or other lawsuits related to our products.

Additional capital may not be available when we need it, on terms that are acceptable to us or at all. If adequate funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate our sales and marketing, manufacturing or distribution capabilities or other activities that may be necessary to commercialize our product or product candidates, nonclinical studies, clinical trials or other development activities.

If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product or product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us. If we raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted and the terms of any new equity securities may have preferential rights over our common stock. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt or making capital expenditures or specified financial ratios, any of which could restrict our ability to commercialize our product, develop and commercialize our product candidates or operate as a business.

Risks Related to Our Product and Product Candidates

We are dependent upon the clinical, regulatory and commercial success of OTIVIDEX for Ménière’s disease.

We have invested substantial resources in the development of OTIVIDEX. We have completed two Phase 3 trials for OTIVIDEX in Ménière’s disease patients. The AVERTS-2 trial, conducted in Europe, achieved its primary endpoint while the AVERTS-1 trial, conducted in the United States, did not. Based on a Type C meeting with the FDA, we believe that one additional successful pivotal trial is sufficient to support the U.S. registration of OTIVIDEX in Ménière’s disease, and recently announced the initiation of such trial.

OTIVIDEX is most subject to the risks associated with completing such pivotal trial and any future clinical trials required for registration, including risks associated with:

- the successful implementation, enrollment and completion of such clinical trials of OTIVIDEX;
- the use and adequacy of patient reported outcomes in such clinical trials;
- our ability to demonstrate with substantial clinical evidence the safety and efficacy of OTIVIDEX in such clinical trials;

- the successful implementation and completion of any additional clinical safety studies or any additional non-clinical studies that may be required by the FDA; and
- the ability to submit an NDA for regulatory approval to the FDA.

If we are able to successfully complete the clinical trials required for OTIVIDEX registration, its success will still remain subject to the risks associated with obtaining regulatory approval from the FDA and being manufactured and commercialized, including risks associated with:

- the successful completion of all non-clinical studies required to support regulatory approval by the FDA;
- the timing of review, as the FDA's grant of Fast Track designation for OTIVIDEX does not guarantee priority review;
- the FDA's acceptance of our NDA submission for OTIVIDEX;
- the successful and timely receipt of necessary marketing approval from the FDA to allow us to begin commercializing OTIVIDEX in the United States;
- the ability to manufacture commercial supplies of OTIVIDEX in compliance with cGMP;
- our success in selling OTIVIDEX and achieving broad market acceptance;
- our success in educating physicians and patients about the benefits, administration and use of OTIVIDEX;
- the availability, perceived advantages, relative cost, relative safety and relative efficacy of other products or treatments for Ménière's disease;
- patient demand for the treatment of Ménière's disease;
- the availability of coverage and adequate reimbursement for OTIVIDEX;
- our ability to enforce our intellectual property rights in and to OTIVIDEX; and
- a continued acceptable safety profile of OTIVIDEX following approval.

Many of these clinical, regulatory and commercial matters are beyond our control and are subject to other risks described elsewhere in this "Risk Factors" section. Accordingly, we cannot assure you that we will be able to advance OTIVIDEX through final clinical development, or obtain regulatory approval of, manufacture, commercialize or generate significant revenue from OTIVIDEX. If we cannot do so, or are significantly delayed in doing so, our business will be materially harmed.

In addition to OTIVIDEX, our long-term prospects depend in part upon advancing additional product candidates, such as OTO-313 and OTO-413, through clinical development to regulatory approval and commercialization.

Although we are focused upon continued development, regulatory approval and commercialization of OTIVIDEX, the development of OTO-313, OTO-413 and other product candidates for the treatment of inner ear disorders is a key element of our long-term strategy. These programs are currently most subject to the risks associated with nonclinical and clinical development, including the risks associated with:

- generating sufficient data to support the initiation or continuation of clinical trials;
- obtaining regulatory approval to commence clinical trials;
- contracting with the necessary parties to conduct clinical trials;
- enrolling sufficient numbers of subjects or patients in clinical trials;
- the timely manufacture of sufficient quantities of the product candidate for use in clinical trials; and
- adverse events in the clinical trials.

Even if we successfully advance OTO-313 through clinical development, or advance OTO-413 or other product candidates from our hearing loss programs or any other future product candidate into clinical development, their success will be subject to all the clinical, regulatory and commercial risks described elsewhere in this "Risk Factors" section. Accordingly, we cannot assure you that we will ever be able to develop, obtain regulatory approval of, commercialize or generate significant revenue from OTO-313, OTO-413, any other product candidate from our hearing loss programs or any other future product candidate.

Risks Related to Our Business and Strategy

OTIPRIO and our product candidates, OTIVIDEX, OTO-313, OTO-413 or any future product candidates that obtain regulatory approval, may fail to achieve the broad degree of market acceptance and use necessary for commercial success.

OTIPRIO and our product candidates, if approved, may not achieve market acceptance among physicians and patients, and may not be commercially successful. For OTIPRIO, treatment of pediatric patients with bilateral otitis media with effusion undergoing TTP surgery is currently addressed with the off-label use of antibiotic ear drops, but antibiotic ear drops are approved for the AOE indication. We launched OTIPRIO in March 2016, but we have not generated significant revenue from sales of OTIPRIO, and in November 2017, we announced the discontinuation of our promotional support for OTIPRIO in TTP surgery. In August 2018, we announced the initiation of a partnership with Mission for the promotion of OTIPRIO to certain end users involved in the treatment of patients for AOE.

There are currently no FDA-approved drug treatments for the indications we are pursuing for our product candidates. Our proposed initial indication for OTIVIDEX is the treatment of vertigo associated with Ménière's disease. Currently, Ménière's disease patients are routinely prescribed a low-salt diet and off-label use of diuretics. Physicians may also prescribe the off-label use of antihistamines, anticholinergics, phenothiazines and benzodiazepines as well as corticosteroids. Our proposed indication for OTO-313 is the treatment of tinnitus. Currently, physicians may attempt to treat tinnitus symptoms with the off-label use of steroids, anxiolytics, antidepressants, and antipsychotics. Our target indication for OTO-413 is the treatment of speech-in-noise hearing difficulties. A subset of patients with this condition are currently treated with hearing aids. The commercial success of OTIPRIO and our product candidates, if approved, will depend significantly on the adoption and use of the resulting product by physicians for approved indications. The decision to elect treatment with OTIPRIO for middle ear effusion in pediatric patients requiring TTP surgery and AOE, or to elect to utilize OTIVIDEX for Ménière's disease, OTO-313 for tinnitus or OTO-413 for speech-in-noise hearing difficulties, rather than other products or treatments, may be influenced by a number of factors, including:

- the cost, safety and effectiveness of our products as compared to other products or treatments;
- physician willingness to adopt our product in lieu of other products or treatments;
- ability to gain utilization in facilities responsible for purchasing our products;
- the extent to which physicians recommend our products to their patients;
- patient or caregiver sentiment about the benefits and risks of our products;
- proper training and administration of our products by physicians and medical staff, such that their patients do not experience excessive discomfort during treatment or adverse side effects;
- the procedural risks of IT injection;
- overcoming any biases physicians or patients may have in favor of other products or treatments;
- patient preference for non-injectable treatments;
- patient or caregiver satisfaction with the results and administration of our product and overall treatment experience, including relative convenience and ease of administration;
- the effectiveness of our sales and marketing efforts;
- demand for the treatment of the relevant diseases or disorders;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- the prevalence and severity of any adverse events;
- the revenue and profitability that our products will offer a physician as compared to other products or treatments;
- the availability of coverage and adequate reimbursement by third-party payors and government authorities and perceptions regarding such availability; and
- general patient or caregiver confidence, which may be impacted by economic and political conditions.

If our product candidates, if approved for use, fail to achieve the broad degree of market acceptance necessary for commercial success, our operating results and financial condition will be adversely affected. In addition, even if any of our products gain acceptance, the markets for treatment of patients with our target indications may not be as significant as we estimate.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome, results of earlier studies and trials may not be predictive of future trial results, and our clinical trials may fail to adequately demonstrate the safety and efficacy of our product candidates.

Clinical testing is expensive, can take many years to complete and its outcome is inherently uncertain. A failure of one or more of our clinical trials can occur at any time during the clinical trial process. The results of nonclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. There is a high failure rate for drugs proceeding through clinical trials, and product candidates in later stages of clinical trials may fail to show the required safety and efficacy despite having progressed through nonclinical studies and initial clinical trials. For instance, our AVERTS-2 Phase 3 trial for OTIVIDEX in Ménière's disease patients, conducted in Europe, achieved its primary endpoint while our AVERTS-1 Phase 3 trial, conducted in the United States, did not. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier clinical trials, and we cannot be certain that we will not face similar setbacks. Even if our clinical trials are completed, the results may not be sufficient to obtain regulatory approval for our product candidates or support the indications which we are pursuing.

We have in the past experienced delays in our clinical trials and we may in the future. We do not know whether future clinical trials, if any, will begin on time, need to be redesigned, enroll an adequate number of patients on time or be completed on schedule, if at all. Clinical trials can be delayed, suspended or terminated for a variety of reasons, including failure to:

- generate sufficient nonclinical, toxicology, or other in vivo or in vitro data to support the initiation or continuation of clinical trials;
- obtain regulatory approval, or feedback on trial design, to commence a clinical trial;
- identify, recruit and train suitable clinical investigators;
- reach agreement on acceptable terms with prospective CROs, and clinical trial sites;
- obtain and maintain institutional review board (IRB) approval at each clinical trial site;
- identify, recruit and enroll suitable patients to participate in a clinical trial;
- have a sufficient number of patients complete a clinical trial or return for post-treatment follow-up;
- ensure clinical investigators observe trial protocol and comply with Good Clinical Practices (GCP) or continue to participate in a clinical trial;
- address any patient safety concerns that arise during the course of a clinical trial;
- address any conflicts with new or existing laws or regulations;
- add a sufficient number of clinical trial sites;
- timely manufacture sufficient quantities of product candidate for use in clinical trials; or
- have sufficient capital to fund a clinical trial.

Patient enrollment is a significant factor in the timing of clinical trials. We may not be able to initiate or continue clinical trials for our product candidates on a timely basis if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials. Patient enrollment is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the clinical trial, the design of the clinical trial, competing clinical trials and clinicians' and patients' or caregivers' perceptions as to the potential advantages of the drug candidate being studied in relation to other available therapies, including any new drugs or treatments that may be approved for the indications we are investigating.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the data safety monitoring board for such clinical trial or by the FDA or any other regulatory authority, or if the IRBs of the institutions in which such clinical trials are being conducted suspend or terminate the participation of their clinical investigators and sites subject to their review. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure

to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

For example, OTIVIDEX was previously subject to Full Clinical Hold that was removed in July 2013 and then subject to Partial Clinical Hold that was removed in June 2014. The removal of Full Clinical Hold allowed us to initiate the Phase 2b clinical trial. As a result of OTIVIDEX being placed on Full Clinical Hold, OTIPRIO was also placed on Full Clinical Hold. The OTIPRIO Full Clinical Hold was removed in November 2012. We cannot assure you that our product candidates will not be subject to new clinical holds or significant delay in the future.

If we experience delays in the initiation or completion of any clinical trial of our product candidates for any reason, or if any clinical trial is terminated, the commercial prospects of our product candidates may be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

We may be unable to obtain regulatory approval for our product candidates other than OTIPRIO. The denial or delay of any such approval would delay commercialization and have a material adverse effect on our potential to generate revenue, our business and our results of operations.

The research, development, testing, manufacturing, labeling, packaging, approval, promotion, advertising, storage, recordkeeping, marketing, distribution, post-approval monitoring and reporting, and export and import of drug products are subject to extensive regulation by the FDA and by foreign regulatory authorities in other countries. These regulations differ from country to country. To gain approval to market our product candidates, we must provide clinical data that demonstrates with substantial evidence the safety and efficacy of the product for the intended indication. Other than OTIPRIO in the United States, we have not yet obtained regulatory approval to market any of our other product candidates in the United States or any other country. Our business depends upon obtaining these regulatory approvals.

The FDA can delay, limit or deny approval of our product candidates for many reasons, including:

- our inability to satisfactorily demonstrate that the product candidates are safe and effective for the requested indication;
- the FDA's disagreement with our trial protocol or the interpretation of data from nonclinical studies or clinical trials;
- the population studied in the clinical trial may not be sufficiently broad or representative to assess safety in the full population for which we seek approval;
- our inability to demonstrate that clinical or other benefits of our product candidates outweigh any safety or other perceived risks;
- the FDA's determination that additional nonclinical or clinical trials are required;
    - the FDA's non-approval of the formulation, labeling or the specifications of our product candidates;
- the FDA's failure to accept the manufacturing processes or facilities of third-party manufacturers with which we contract, or our inability to manufacture our product candidates pursuant to cGMP; or
- the potential for approval policies or regulations of the FDA to significantly change in a manner rendering our clinical data insufficient for approval.

Even if we eventually complete clinical testing and receive approval of any regulatory filing for our product candidates, the FDA may grant approval contingent on the performance of costly additional post-approval clinical trials. The FDA may also approve our product candidates for a more limited indication or a narrower patient population than we originally requested, and the FDA may not approve the labeling that we believe is necessary or desirable for the successful commercialization of our product candidates. To the extent we seek regulatory approval in

foreign countries, we may face challenges similar to those described above with regulatory authorities in applicable jurisdictions. Any delay in obtaining, or inability to obtain, applicable regulatory approval for any of our product candidates would delay or prevent commercialization of our product candidates and would materially adversely impact our business, results of operations and prospects.

Use of our product or product candidates could be associated with undesirable side effects or adverse events that could halt their clinical development, delay or prevent their regulatory approval, limit their commercial potential or result in significant negative consequences.

Our product or product candidates could be associated with side effects or adverse events which can vary in severity and frequency. Side effects or adverse events associated with the use of our product or product candidates may be observed at any time, including in clinical trials or once a product is commercialized, and any such side effects or adverse events may negatively affect our ability to obtain regulatory approval for our product candidates or market our product or product candidates, if approved. Side effects such as toxicity or other safety issues associated with the use of our product or product candidates could require us to perform additional studies or halt development or sale of our product or product candidates or expose us to product liability lawsuits which will harm our business. We may be required by regulatory agencies to conduct additional nonclinical or clinical trials regarding the safety and efficacy of our product or product candidates which we have not planned or anticipated. We cannot assure you that we will resolve any issues related to any product-related adverse events to the satisfaction of the FDA or any regulatory agency in a timely manner or ever, which could harm our business, prospects and financial condition.

Some patients in our clinical trials have reported adverse events after being treated with OTIPRIO and OTIVIDEX. If we are successful in commercializing our product or product candidates, the FDA and other foreign regulatory agency regulations will require that we promptly report certain information about adverse medical events if those products may have caused or contributed to those adverse events. The timing of our obligation to report would be triggered by the date we become aware of the adverse event as well as the nature of the event. We may fail to report adverse events we become aware of within the prescribed timeframe. We may also fail to appreciate that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of our product or product candidates. If we fail to comply with our reporting obligations, the FDA or other foreign regulatory agencies could take action including criminal prosecution, the imposition of civil monetary penalties, seizure of our products, or delay in approval or clearance of future products.

OTIPRIO and our product candidates, if approved, will face significant competition in the biopharmaceutical industry, and our failure to effectively compete with competitor drugs, including off-label drug use, and future competitors may prevent us from achieving significant market penetration and expansion.

The biopharmaceutical industry is intensely competitive and subject to rapid and significant technological change. If approved, our products must compete with off-label drug use by physicians to treat the indications for which we seek approval, such as, in the case of OTIPRIO, the current use of inexpensive generic antibiotic ear drops to treat middle ear effusion in patients requiring TTP surgery. We are also aware that other companies, such as Arbor Pharmaceuticals, LLC, Audion Therapeutics, Auris Medical Holding AG, Autifony Therapeutics Ltd., Decibel Therapeutics, Inc., Fennec Pharmaceuticals Inc., Frequency Therapeutics, KYORIN Pharmaceutical Co. Ltd., Laboratorios SALVAT S.A., Novartis AG, Novus Therapeutics, Inc., Otologic Pharmaceutics Inc., Sensorion SA, Sound Pharmaceuticals Inc., Strekin AG and Synphora AB, are commercializing products or conducting clinical trials for potential products for the treatment of various otic indications, including ear infections, tinnitus, Ménière’s disease and hearing loss. Many companies in the biopharmaceutical industry have greater resources to discover, obtain patents, develop, test and obtain regulatory approvals for products, as well as commercialize, market and promote approved products, including communicating the effectiveness, safety and value of products to actual and prospective customers and medical staff. These companies may develop new drugs to treat the diseases and disorders we target or seek to have existing drugs approved for use for new indications that treat the diseases and disorders we target. Mergers and acquisitions in the biopharmaceutical industry may result in even more resources being concentrated in potential competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in this industry. Our competitors may succeed in

developing, acquiring or licensing on an exclusive basis products that are more effective, easier to administer or less costly than our product or product candidates.

We rely on third parties to conduct many of our nonclinical studies and all our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for, or commercialize, our product candidates.

We do not have the ability to independently conduct many of our nonclinical studies or any of our clinical trials. We rely on medical institutions, clinical investigators, contract laboratories, and other third parties, such as CROs, to conduct clinical trials on our product candidates. Third parties play a significant role in the conduct of our clinical trials and the subsequent collection and analysis of data. These third parties are not our employees, and except for remedies available to us under our agreements, we have limited ability to control the amount or timing of resources that any such third party will devote to our clinical trials. If our CROs or any other third parties upon which we rely for administration and conduct of our clinical trials do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements, or for other reasons, or if they otherwise perform in a substandard manner, our clinical trials may be extended, delayed, suspended or terminated, and we may not be able to complete development of, obtain regulatory approval for, or successfully commercialize our product candidates.

We and the third parties upon whom we rely are required to comply with GCP, which are regulations and guidelines enforced by regulatory authorities around the world for products in clinical development. Regulatory authorities enforce these GCP regulations through periodic inspections of clinical trial sponsors, principal investigators and clinical trial sites. If we or our third parties fail to comply with applicable GCP regulations, the clinical data generated in our clinical trials may be deemed unreliable and our submission of marketing applications may be delayed, or the regulatory authorities may require us to perform additional clinical trials before reviewing or approving our marketing applications. We cannot assure you that, upon inspection, a regulatory authority will determine that any of our clinical trials comply or complied with applicable GCP regulations.

In addition, our clinical trials must be conducted with drug supply produced under cGMP regulations, which are enforced by regulatory authorities. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be impacted if our CROs, clinical investigators or other third parties violate federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws. In order for our clinical trials to be carried out effectively and efficiently, it is imperative that our CROs and other third parties communicate and coordinate with one another. Moreover, our CROs and other third parties may also have relationships with other commercial entities, some of which may compete with us. Our CROs and other third parties may terminate their agreements with us upon as few as 30 days' notice under certain circumstances. If our CROs or other third parties conducting our clinical trials do not perform their contractual duties or obligations, experience work stoppages, do not meet expected deadlines, terminate their agreements with us or need to be replaced, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical trial protocols or GCPs, or for any other reason, we may need to conduct additional clinical trials or enter into new arrangements with alternative CROs, clinical investigators or other third parties. We may be unable to enter into arrangements with alternative CROs, clinical investigators or other third parties on commercially reasonable terms, or at all. Switching or adding CROs, clinical investigators or other third parties can involve substantial cost and require extensive management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays may occur, which can materially impact our ability to meet our desired clinical development timelines. Although we carefully manage our relationship with our CROs, clinical investigators and other third parties, there can be no assurance that we will not encounter such challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, prospects, financial condition or results of operations

We rely completely on third parties to manufacture our nonclinical, clinical drug supplies and commercial supplies of OTIPRIO and any other approved products.

We outsource the manufacture of OTIPRIO and our product candidates. We do not currently have the infrastructure or internal capability to manufacture supplies of OTIPRIO or our product candidates for use in development and commercialization. If we were to experience an unexpected loss of supply of OTIPRIO or our product candidates for any reason, whether as a result of manufacturing, supply or storage issues or otherwise, our business would be harmed, and we could experience delays, disruptions, suspensions or terminations of, or be required to restart or repeat, any pending or ongoing clinical trials. Although we generally do not begin a clinical trial unless we believe we have a sufficient supply of a product candidate to complete the clinical trial, we may be required to manufacture additional supplies of our product candidates to the extent our estimates of the amounts required prove inaccurate, we suffer unexpected losses of product candidate supplies, or to the extent that we are required to have fresh product candidate supplies manufactured to satisfy regulatory requirements or specifications. Any significant delay or discontinuation in the supply of OTIPRIO or a product candidate, or the raw material components thereof, due to the need to replace a contract manufacturer or other third-party manufacturer, could considerably harm our business and ability to generate revenue and delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates.

Reliance on third-party manufacturers entails additional risks, including reliance on the third party for regulatory compliance and quality assurance, the possible breach of the manufacturing agreement by the third party, and the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us. The facilities used by our third-party manufacturers must be accepted by the FDA pursuant to inspections that will be conducted before approval and after we submit our NDA to the FDA. We do not control the implementation of the manufacturing process of, and are completely dependent on, our third-party manufacturers for compliance with the regulatory requirements, for manufacture of both active drug substances and finished drug products. If our third-party manufacturers cannot successfully manufacture material that conforms to applicable specifications in our regulatory applications and the strict regulatory requirements of the FDA or foreign regulatory authorities, we will not be able to secure and/or maintain regulatory acceptance of our contract manufacturing facilities. In addition, we have no control over the ability of our contract manufacturers or other third-party manufacturers to maintain adequate quality control, quality assurance and qualified personnel. The failure of our third-party manufacturers to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of OTIPRIO or our product candidates or any other product candidates or products that we may develop. In addition, if the FDA does not accept these facilities for the manufacture of our product or our product candidates or if it withdraws any such acceptance in the future, we will need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. Any failure or refusal to supply the components for our product

or our product candidates could delay, prevent or impair our clinical development or commercialization efforts. If our contract manufacturers were to breach or terminate their manufacturing arrangements with us, the development or commercialization of the affected product or product candidates could be delayed, which could have an adverse effect on our business. Any change in our manufacturers could be costly because the commercial terms of any new arrangement could be less favorable and because the expenses relating to the transfer of necessary technology and processes could be significant.

We may encounter issues with manufacturing as we commercialize OTIPRIO or our product candidates, if approved.

We have limited experience manufacturing OTIPRIO for commercial use, and our product candidates have never been manufactured for commercial use. There are risks associated with manufacturing for commercial use including, among others, potential problems with forecasting and cost overruns, process reproducibility, storage availability, stability issues, lot consistency and timely availability of materials. We cannot assure you that our contract manufacturers will be able to manufacture any approved product to specifications acceptable to the FDA or foreign regulatory authorities, or to produce it in sufficient quantities to meet the market demand. We have in the past manufactured, and may in the future manufacture, batches of OTIPRIO that do not meet the appropriate specifications and cannot be used. We may also manufacture OTIPRIO or any approved product that remains unused due to obsolescence, expiry or quantities in excess of expected demand. If our contract manufacturers are unable to successfully produce sufficient quantities of any approved product for commercialization, our commercial efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects.

We depend on a small number of suppliers for the raw materials necessary to produce OTIPRIO and our product candidates. The loss of these suppliers, or their failure to supply us with these raw materials, would materially and adversely affect our business.

We depend on the availability of key raw materials, including poloxamer for OTIPRIO and our product candidates, ciprofloxacin for OTIPRIO, dexamethasone for OTIVIDEX, gacyclidine for OTO-313 and BDNF for OTO-413, from a small number of third-party suppliers. Because there are a limited number of suppliers for the raw materials that we use to manufacture our product and product candidates, we may need to engage alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce OTIPRIO for required commercial supplies or our product candidates for our clinical trials. We do not have any control over the availability of raw materials. If we or our manufacturers are unable to purchase these raw materials on acceptable terms, at sufficient quality levels, or in adequate quantities, if at all, commercial sales of OTIPRIO and the development of OTIVIDEX, OTO-313, OTO-413 or any future product candidates, would be delayed or there would be a shortage in supply, which would impair our ability to meet our development objectives for our product candidates or generate revenues from the sale of any approved products.

Our ability to market OTIPRIO is limited to its approved indications, and our product candidates, if approved, will be limited to certain indications. If we want to expand the indications for which we may market our products, we will need to obtain additional regulatory approvals, which may not be granted.

OTIPRIO is currently approved for the treatment of pediatric patients with bilateral otitis media with effusion undergoing TTP surgery and for the treatment of AOE and is in development for AOMT. We are developing OTIVIDEX for the treatment of vertigo associated with Ménière’s disease, OTO-313 for the treatment of tinnitus and OTO-413 for the treatment of speech-in-noise hearing difficulties. The FDA and other applicable regulatory agencies will restrict our ability to market and advertise our products to the scope of the approved label for the applicable product and for no other indications, which could limit physician and patient adoption. We may attempt to develop new treatment indications for our product or product candidates in the future, but we cannot predict when or if we will

receive the regulatory approvals required to promote our product or product candidates for new treatment indications. Failure to receive such approvals prevents us from promoting and commercializing the new treatment indications. In addition, we would be required to conduct additional clinical trials or studies to support approvals for additional indications, which would be time consuming and expensive, and may produce results that do not support regulatory approvals. If we do not obtain additional regulatory approvals, our ability to expand our business will be limited.

If our product candidates are approved for marketing, and we are found to have improperly promoted off-label uses, or if physicians misuse our products, we may become subject to prohibitions on the sale or marketing of our products, significant sanctions and product liability claims, and our image and reputation within the industry and marketplace could be harmed.

The FDA and other regulatory agencies strictly regulate the marketing and promotional claims that are made about drug products. In particular, a product may not be promoted for uses or indications that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. For example, OTIPRIO is approved for the treatment of pediatric patients with bilateral otitis media with effusion undergoing TTP surgery and for the treatment of AOE, and we cannot promote the use of our product in a manner that is inconsistent with the approved label. Although physicians are able to, in their independent medical judgment, use OTIPRIO on their patients in an off-label manner, such as for the treatment of other otic indications, if we are found to have promoted such off-label uses, we may receive warning letters and become subject to significant liability, which would

materially harm our business. The federal government has levied large administrative, civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. If we become the target of such an investigation or prosecution based on our marketing and promotional practices, we could face similar sanctions, which would materially harm our business. In addition, management's attention could be diverted from our business operations, significant legal expenses could be incurred, and our reputation could be damaged. The federal government and regulatory authorities have also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we are deemed by the federal government or regulatory authorities to have engaged in the promotion of our products for off-label use, we could be subject to prohibitions on the sale or marketing of our products or significant fines and penalties, and the imposition of these sanctions could also affect our reputation with physicians, patients and caregivers, and our position within the industry.

Physicians may also misuse our products or use improper techniques, potentially leading to adverse results, side effects or injury, which may lead to product liability claims and costly litigation. Product liability claims could divert management's attention from our core business, be expensive to defend, and result in sizable damage awards against us that may not be covered by insurance. We currently carry product liability insurance with policy limits that we believe are customary for similarly situated companies and adequate to provide us with coverage for foreseeable risks. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Furthermore, the use of our products for conditions other than those approved by the FDA may not effectively treat such conditions, which could harm our reputation in the marketplace among physicians and patients.

We have limited sales and marketing experience and may be unable to successfully commercialize our products or generate product revenue.

We have limited experience in the marketing and sale of pharmaceutical products, and there are significant risks involved in managing a sales and marketing organization, including our ability to hire, retain, adequately compensate and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and marketing team. For example, we discontinued promotional support for OTIPRIO and, as a result, no longer have a sales force. If we decide not to promote our product candidates ourselves, if approved, we may consider promotional partnership arrangements. For instance, in August, we announced the initiation of a partnership with Mission for the promotion of OTIPRIO to certain end users involved in the treatment of patients for AOE. If we are unable to enter into such arrangements on acceptable terms or at all, or if such arrangements are not successful, we may not be able to successfully commercialize our products. Any failure or delay in entering promotional partnerships or developing our internal sales, marketing and distribution capabilities would adversely impact the commercialization of our products. If we are not successful in commercializing our products, either on our own or through partnering with one or more third parties, our future product revenue will suffer and we would incur significant additional losses.

To expand our development and commercial support capabilities in the future, we may need to increase the size of our organization, and we may experience difficulties in managing this growth.

As we advance our product candidates through the development process and commercialize our product and product candidates, if approved, we may need to expand our development, regulatory, quality, managerial, sales and marketing, operational, finance and other resources to manage our operations and clinical trials, continue our development activities and commercialize our product candidates, if approved. If our operations expand, we expect that we will need to manage additional relationships with various manufacturers and collaborative partners, suppliers and other organizations.

Due to our limited financial resources and our limited experience in managing a company with such growth, we may not be able to effectively manage the expansion of our operations or recruit, train and retain additional qualified personnel. For example, in December 2016, we moved into our new headquarters location in San Diego, California. The physical expansion of our operations has led, and may continue to lead, to significant costs. Any inability to manage growth could delay the execution of our development and strategic objectives, or disrupt our operations, which could materially impact our business, revenue and operating results.

Coverage and reimbursement decisions by third-party payors may have an adverse effect on pricing and market acceptance. Recent legislative and regulatory activity may exert downward pressure on potential pricing and reimbursement for our products, if approved, that could materially affect the opportunity to commercialize.

There is significant uncertainty related to the third-party coverage and reimbursement of newly approved drugs. Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Therefore, market acceptance and sales of our products, if approved, in both domestic and international markets will depend significantly on the availability of adequate coverage and reimbursement from third-party or government payors for any of our products and may be affected by existing and future healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs they will cover and establish payment levels. CMS has established a unique J Code for OTIPRIO that replaces a previously assigned C Code. We also intend to apply for a unique J Code for OTIVIDEX, OTO-313 and OTO-413. We cannot assure you that J Codes will be issued for OTIVIDEX, OTO-313 and OTO-413, if approved. We also cannot assure you that third-party payors will provide reimbursement according to a J Code. If a J Code is not issued or a J Code is issued but not reimbursed by third-party payors, then the cost of these drugs may be absorbed by healthcare providers or charged to patients. If this is the case, our expectations of the pricing we expect to achieve for OTIPRIO, and OTIVIDEX, OTO-313 and OTO-413, if approved, and the related potential revenue, may be significantly diminished. We cannot be certain that coverage and adequate reimbursement will be available for OTIPRIO or any other products, if approved, or that such coverage and reimbursement will be authorized in a timely fashion, even if a unique J Code is assigned for such products. Also, we cannot be certain that reimbursement policies will not reduce the demand for, or the price paid for, OTIPRIO or any of our product candidates, if approved. If reimbursement is not available or is available on a limited basis for any of our products, if approved, we may not be able to successfully commercialize any such products. Reimbursement by a third-party or government payor may depend upon a number of factors, including, without limitation, the third-party or government payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement approval for a product from a government or other third-party payor is a time consuming and costly process that could require us to provide supporting scientific, clinical and cost-effectiveness data for the use of our products to the payor. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement or to have pricing set at a satisfactory level. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels such as may result where alternative or generic treatments are available, we may be unable to achieve or sustain profitability.

Assuming we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate or may require co-payments that patients find unacceptably high. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products.

In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained. In some foreign countries, particularly in Europe, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement

or pricing approval in some countries, we may be required to conduct additional clinical trials that compare the cost-effectiveness of our products to other available therapies. If reimbursement of any of our products, if approved, is unavailable or limited in scope or amount in a particular country, or if pricing is set at unsatisfactory levels, we may be unable to achieve or sustain profitability of our products in such country.

The United States and several other jurisdictions are considering, or have already enacted, a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell any of our products profitably, if approved. Among policy-makers and payors in the United States and elsewhere, there has been significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access to healthcare. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. There have been, and likely will continue to be, legislative and regulatory proposals at the federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict if or how these or future initiatives may be adopted in the future. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect:

- the demand for any of our products, if approved;
- the ability to set a price that we believe is fair for any of our products, if approved;
- our ability to generate revenues and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

In March 2010, the Affordable Care Act (ACA) became law in the United States. One goal of ACA is to reduce the cost of healthcare and substantially change the way healthcare is financed by both governmental and private insurers. While we cannot fully predict what impact on federal reimbursement policies this legislation will have in general or on our business specifically, ACA may result in downward pressure on pharmaceutical reimbursement, which could negatively affect our ability to generate revenue, achieve market acceptance of our product or future approved products, attain profitability, or commercialize our product or any future approved products. Provisions of ACA relevant to the pharmaceutical industry include the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs, not including orphan drug sales;
- an increase in the rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13% of the average manufacturer price for most branded and generic drugs, respectively;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts on negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the Federal Poverty Level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements to report annually certain financial arrangements with physicians and teaching hospitals, as defined in ACA and its implementing regulations, including reporting any payment or "transfer of value" provided to physicians and teaching hospitals and any ownership and investment interests held by physicians and their immediate family members during the preceding calendar year;
- expansion of healthcare fraud and abuse laws, including the federal False Claims Act and the federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in and conduct comparative clinical effectiveness research, along with funding for such research.

Recent changes in the U.S. government could lead to repeal of or changes in some or all the ACA and complying with any new legislation or reversing changes implemented under the ACA could be time-intensive and expensive, resulting in a material adverse effect on our business. Healthcare reform measures that may be adopted in the future may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for our product or future approved products. Any such reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, achieve market acceptance of our product or future approved products, attain profitability, or commercialize future approved products. Until the ACA or other healthcare reform measures are fully implemented or there is more certainty concerning the future of the ACA or such healthcare reform measures, it will be difficult to predict its full impact and influence on our business.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our products.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and face an even greater risk now that OTIPRIO has been commercialized and as other product candidates get approved, if at all. For example, we may be sued if any product we develop allegedly causes or is perceived to cause injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our products. Even a successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our products;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants or cancellation of clinical trials;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to clinical trial participants or patients;
- regulatory investigations, product recalls, withdrawals or labeling, marketing or promotional restrictions;
- exhaustion of any available insurance and our capital resources;
- loss of revenue; and
- the inability to commercialize any products we develop.

Our inability to obtain and maintain sufficient product liability insurance at an acceptable cost and scope of coverage to protect against potential product liability claims could prevent or inhibit the commercialization of our products. We currently carry product liability insurance with policy limits that we believe are customary for similarly situated companies and adequate to provide us with coverage for foreseeable risks. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. If we determine that it is prudent to increase our product liability coverage in the future, we may be unable to obtain such increased coverage on acceptable terms, or at all. Our insurance policies also have various exclusions and deductibles, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses.

If we fail to attract and retain senior management and key scientific personnel, we may be unable to successfully develop and commercialize our product candidates.

Our success depends in part on our continued ability to attract, retain and motivate highly qualified management, commercial, clinical and scientific personnel. We believe that our future success is highly dependent upon the contributions of our senior management, particularly our President and Chief Executive Officer, as well as our senior scientists and other members of our senior management team. The loss of services of any of these individuals, who all have at-will employment arrangements with us, could delay or prevent the successful development of our product pipeline, completion of our planned clinical trials or the commercialization of our product candidates, if approved.

Although we have not historically experienced unique difficulties attracting and retaining qualified employees, we could experience such problems in the future. For example, competition for qualified personnel in the biotechnology

and pharmaceuticals field is intense due to the limited number of individuals who possess the skills and experience required by our industry. We will need to hire additional personnel as we expand our clinical development and commercial activities. We may not be able to attract and retain quality personnel on acceptable terms, or at all, which may cause our business and operating results to suffer.

If we are not successful in discovering, developing, acquiring and commercializing additional product candidates, our ability to expand our business and achieve our strategic objectives would be impaired.

Although a substantial amount of our efforts are focused on the development and regulatory approval of our current product candidates, a key element of our strategy is to identify, develop and commercialize additional product candidates for the treatment of inner ear disorders. We are seeking to do so through our internal research programs and may explore strategic collaborations with third parties for the development or acquisition of new product candidates or products. Research programs to identify new product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified or successfully developed.

Our internal computer systems, or those of our CROs or other contractors or consultants, or our partners. may fail or suffer security breaches, which could result in a material disruption of our drug development programs.

We rely on information technology systems to keep financial records, maintain laboratory and corporate records, communicate with staff and external parties and operate other critical functions. Despite the implementation of security measures, our internal computer systems and those of our third-party logistics vendor, CROs and other contractors and consultants, and our partners, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. To our knowledge, we have not experienced a material system failure, accident or security breach to date, and if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our commercialization activities or drug development programs. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the development and commercialization of our product candidates could be delayed.

Changes in financial accounting standards or practices may cause adverse, unexpected financial reporting fluctuations and affect our reported operating results.

Generally accepted accounting principles in the United States are subject to interpretation by the FASB, the SEC and various bodies formed to promulgate and interpret appropriate accounting principles. A change in accounting standards or practices can have a significant effect on our reported results and may even affect our reporting of transactions completed before the change is effective. New accounting pronouncements and varying interpretations of accounting pronouncements have occurred and may occur in the future. Changes to existing rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business.

Our employees, independent contractors, clinical investigators, CROs, consultants and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk that our employees, independent contractors, clinical investigators, CROs, consultants and vendors may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violates: (i) FDA regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA, (ii) manufacturing standards, (iii) federal, state and foreign healthcare fraud and abuse laws, or (iv) laws that require the reporting of financial information or data accurately. Specifically, research, sales, marketing, education and other business arrangements in the healthcare industry are subject to extensive laws intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws may restrict or prohibit a wide range of pricing, discounting, education, marketing and promotion, sales commission, customer incentive programs and other business

arrangements. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a code of business conduct and ethics, as well as various compliance policies and procedures, but it is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws. If any such actions are instituted against us, even if we are successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business. Violations of such laws subject us to numerous penalties, including, but not limited to, the imposition of civil, criminal and administrative penalties, damages, monetary fines, disgorgement, individual imprisonment, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

We or the third parties upon whom we depend may be adversely affected by earthquakes, wildfires or other natural disasters, and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our corporate headquarters are located in the San Diego, which in the past has experienced severe earthquakes. We do not carry earthquake insurance. The San Diego area has also experienced serious wildfires. If a natural disaster or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as product development and research efforts for our current product candidates and finance records, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and may not be adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Furthermore, integral parties in our supply chain and distribution chain are geographically concentrated and operating from single sites, increasing their vulnerability to natural disasters or other sudden, unforeseen and severe adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our business.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. A severe or prolonged economic downturn may cause extreme volatility and disruptions in the capital and credit markets and could result in a variety of risks to our business and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption, or cause our customers and third-party payors to delay making payments for our services.

Recent events, including the United Kingdom’s 2016 vote in favor of exiting the European Union, or “Brexit,” and the initiation for the United Kingdom’s withdrawal, and similar geopolitical developments or the perception that any of them could occur, may lead to worldwide economic and legal uncertainty, including significant volatility in global stock markets and currency exchange rates, and increasingly divergent laws and regulations.

Any of the foregoing could harm our business, and we cannot anticipate all the ways in which the current economic climate and financial market conditions could adversely impact our business.

Risks Related to Our Intellectual Property

If our efforts to protect the intellectual property related to our product and product candidates are not adequate, we may not be able to compete effectively in our market.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our product, product candidates and technology. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, eroding our competitive position in the market.

The patent application process, also known as patent prosecution, is expensive and time-consuming, and we and our current or future licensors and licensees may not be able to prepare, file and prosecute all necessary or desirable patent

applications at a reasonable cost or in a timely manner. It is also possible that we or our current licensors, or any future licensors or licensees, will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, it is possible that certain patentable aspects of our inventions may not be protected in a manner consistent with the best interests of our business. Defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, for example with respect to proper priority claims, inventorship, etc., although we are unaware of any such defects that we believe are of material import. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. If we or our current licensors, or any future licensors or licensees, fail to file patent applications, or maintain, enforce or protect our patents, such patent rights may be reduced or eliminated. If our current licensors, or any future licensors or licensees, are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

The strength of patents in the pharmaceutical field involves complex legal and scientific questions and can be uncertain. This uncertainty includes changes to the patent laws through either legislative action to change statutory patent law or court action that may reinterpret existing law or rules in ways affecting the scope or validity of issued patents. The patent applications that we own or in-license may fail to result in issued patents in the United States or foreign countries with claims that cover our product or product candidates. Even if patents do successfully issue from the patent applications that we own or in-license, third parties may challenge the validity, enforceability or scope of such patents, which may result in such patents being narrowed, invalidated or held unenforceable. For example, patents granted by the European Patent Office may be challenged, also known as opposed, by any person within nine months from the publication of their grant. Any successful challenge to our patents could deprive us of exclusive rights necessary for the successful commercialization of our product or product candidates. Furthermore, even if they are unchallenged, our patents may not adequately protect our product or product candidates, provide exclusivity for our product or product candidates, or prevent others from designing around our patents. If the breadth or strength of protection provided by the patents we hold or pursue with respect to our product or product candidates is challenged, it could dissuade companies from collaborating with us to develop, or threaten our ability to commercialize our product or product candidates.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its effective filing date. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for our product or product candidates, we may be open to competition from generic versions of our product or product candidates. Further, if we encounter delays in our development efforts, including our clinical trials, the period of time during which we could market our product or product candidates under patent protection would be reduced.

Most of our patents and patent applications are entitled to effective filing dates prior to March 16, 2013. For U.S. patent applications for which patent claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third party, for example a competitor, or instituted by the U.S. Patent and Trademark Office (USPTO) to determine who was the first to invent any of the subject matter covered by those patent claims. An unfavorable outcome could require us either to cease using the related technology or to attempt to license rights from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our participation in an interference proceeding may fail and, even if successful, may result in substantial costs and distract our management.

In addition to the protection afforded by patents, we also rely on trade secret protection to protect proprietary know-how that may not be patentable or that we elect not to patent, processes for which patents may be difficult to obtain or enforce, and any other elements of our product and product candidates, and our product development processes (such as manufacturing and formulation technologies) that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect. If the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating any trade secrets. Misappropriation or unauthorized disclosure of our trade secrets could significantly affect our competitive position and may have a material adverse effect on our business. Furthermore, trade secret protection does not prevent competitors from independently developing substantially equivalent information and techniques, and we cannot guarantee that our competitors will not independently develop substantially equivalent information and techniques. The FDA, as part of its Transparency Initiative, is currently considering whether to make additional information publicly available on a routine basis, including information that we may consider to be trade secrets or other proprietary information, and it is not clear at the present time how the FDA’s disclosure policies may change in the future, if at all.

In an effort to protect our trade secrets and other confidential information, we require our employees, consultants, advisors, and any other third parties that have access to our proprietary know-how, information or technology, for

example, third parties involved in the formulation and manufacture of our product and product candidates, and third parties involved in our clinical trials, to execute confidentiality agreements upon the commencement of their relationships with us. These agreements require that all confidential information developed by such employees, consultants, advisors, etc., or made known to them by us during the course of our relationship with them be kept confidential and not disclosed to third parties. However, we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed despite having such confidentiality agreements. Adequate remedies may not exist in the event of unauthorized use or disclosure of our trade secrets. In addition, in some situations, these confidentiality agreements may conflict with, or be subject to, the rights of third parties with whom our employees, consultants, or advisors have previous employment or consulting relationships. To the extent that our employees, consultants or advisors use any intellectual property owned by third parties in their work for us, disputes may arise as to the rights in any related or resulting know-how and inventions. If we are unable to prevent unauthorized material disclosure of our trade secrets to third parties, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other pharmaceutical companies, our success is heavily dependent on intellectual property, particularly on obtaining and enforcing patents. Obtaining and enforcing patents in the pharmaceutical industry involves both technological and legal complexity, and therefore is costly, time-consuming and inherently uncertain. In addition, the United States has recently enacted and is currently implementing wide-ranging patent reform legislation. Further, recent U.S. Supreme Court rulings have either narrowed the scope of patent protection available in certain circumstances or weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained.

For our U.S. patent and patent applications containing a claim not entitled to priority before March 16, 2013, there is a greater level of uncertainty in the patent law. In September 2011, the Leahy-Smith America Invents Act, or the American Invents Act (AIA), was signed into law. The AIA includes a number of significant changes to U.S. patent law, including provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. It is not clear what other, if any, impact the AIA will have on the operation of our business. Moreover, the AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application in the USPTO after March 16, 2013 but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application. Furthermore, our ability to obtain and maintain valid and enforceable patents depends on whether the differences between our technology and the prior art allow our technology to be patentable over the prior art. Since patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to either (i) file any patent application related to our product or product candidates or (ii) invent any of the inventions claimed in our patents or patent applications.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and provided opportunities for third parties to challenge any issued patent in the USPTO. This applies to all our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal court necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party in a district court action.

Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and any patents that we might obtain in the future.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for noncompliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent prosecution process. Periodic maintenance fees and various other governmental fees on any issued patent and/or pending patent applications are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of a patent or patent application. We have systems in place to remind us to pay these fees, and we employ an outside firm and rely on our outside counsel to pay these fees. While an inadvertent lapse may sometimes be cured by payment of a late fee or by other means in accordance with the applicable rules, there are many situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If we fail to maintain the patents and patent applications directed to our product or product candidates, our competitors might be able to enter the market earlier than should otherwise have been the case, which would have a material adverse effect on our business.

We may not be able to protect our intellectual property rights throughout the world.

Filing and prosecuting patent applications and defending patents on our product and product candidates in all countries throughout the world would be prohibitively expensive. The requirements for patentability may differ in certain countries, particularly developing countries. For example, China has a heightened requirement for patentability, and specifically requires a detailed description of medical uses of a claimed drug. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement on infringing activities is inadequate. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to pharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally in those countries. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. In addition, certain countries in Europe and certain other countries, including India and China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we may have limited remedies if our patents are infringed or if we are compelled to grant a license to our patents to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license. Finally, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws.

Third-party claims alleging intellectual property infringement may adversely affect our business.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties, for example, patents and proprietary rights of competitors. Our research, development and commercialization activities, including the commercialization of OTIPRIO, may be subject to claims that we infringe or otherwise violate patents owned or controlled by third parties, including our competitors. There are also patent applications, owned by third parties including competitors, that have been filed but not issued that, if issued as patents, may be asserted against us. Numerous U.S. and foreign issued patents and pending patent applications, exist in the otic field in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our activities related to our product or product candidates may give rise to claims of infringement of the patent rights of third parties. We cannot assure you that our product or product candidates will not infringe existing or future patents owned by third parties. We may not be aware of patents that have already issued and that a third party, for example a competitor in the otic market, might assert are infringed by our product or product candidates. It is also possible that patents owned by third parties of which we are aware, but which we do not believe are relevant to our product or product candidates, could be found to be infringed by our product or product candidates.

Third parties making claims against us for infringement or misappropriation of their intellectual property rights may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop our

product candidates and commercialize our product and product candidates, if approved. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit. Regardless of the merits of any third-party claims, our defense against such claims, or other related actions we may take, could cause us to incur substantial expenses, and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us by a third party, we may have to (i) pay substantial damages, including treble damages and attorneys' fees if we are found to have willfully infringed the third party's patents; (ii) obtain one or more licenses from the third party; (iii) pay royalties to the third party; and/or (iv) redesign any infringing products. Redesigning any infringing products may be impossible or require substantial time and monetary expenditure. Further, we cannot predict whether any required license would be available at all or whether it would be available on commercially reasonable terms. In the event that we could not obtain a license, we may be unable to further develop our product candidates and commercialize our product and product candidates, if approved, which could harm our business significantly. Even if we are able to obtain a license, the license would likely obligate us to pay license fees or royalties or both, and the rights granted to us might be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms.

Engaging in litigation is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property or the patents of our licensors, which could be expensive and time consuming.

Third parties may infringe or misappropriate our intellectual property, including our existing patents, patents that may issue to us in the future, or the patents of our licensors to which we have a license. As a result, we may be required to file infringement claims to stop third-party infringement or unauthorized use. Further, we may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Generic drug manufacturers may develop, seek approval for, and launch generic versions of our products. If we file an infringement action against such a generic drug manufacturer, that company may challenge the scope, validity or enforceability of our or our licensors' patents, requiring us and/or our licensors to engage in complex, lengthy and costly litigation or other proceedings. For example, if we or one of our licensors initiated legal proceedings against a third party to enforce a patent covering our product or product candidates, the defendant could counterclaim that the patent covering our product or product candidates is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent.

In addition, within and outside of the United States, there has been a substantial amount of litigation and administrative proceedings, including interference and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in various foreign jurisdictions, regarding patent and other intellectual property rights in the pharmaceutical industry. Recently, the AIA introduced new procedures including inter partes review and post grant review. The implementation of these procedures brings uncertainty to the possibility of challenges to our patents in the future, including challenges to those patents perceived by our competitors as blocking entry into the market for their products, and the outcome of such challenges.

Such litigation and administrative proceedings could result in revocation of our patents or amendment of our patents such that they do not cover our product or product candidates. They may also put our pending patent applications at risk of not issuing or issuing with limited and potentially inadequate scope to cover our product and product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. Additionally, it is also possible that prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, may, nonetheless, ultimately be found by a court of law or an administrative panel to affect the validity or enforceability of a claim, for example if a priority claim is found to be improper. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product and product candidates. Such a loss of patent protection could have a material adverse impact on our business.

Enforcing our or our licensor's intellectual property rights through litigation is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other

proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, during the course of litigation or administrative proceedings, there could be public announcements of the results of hearings, motions or other interim proceedings or developments or public access to related documents. If investors perceive these results to be negative, the market price for our common stock could be significantly harmed.

Although not involving issued U.S. patents covering our product or any of our product candidates, on April 17, 2015, we filed a request for interference between one of our U.S. pending applications and a U.S. pending application controlled by Auris Medical Holding AG (Auris). On July 20, 2015, we received notice from the USPTO that the Patent Trial and Appeal Board (PTAB) declared an interference between our pending application and the Auris patent (issued as U.S. Patent No. 9,066,865 on June 30, 2015). On January 26, 2017, the PTAB determined that all of Otonomy's patent claims and all but one of the Auris patent claims were not patentable. We filed a Notice of Appeal on March 27, 2017, in which we asked the Federal Circuit to reverse PTAB's decision that our claims are not patentable and that Auris's single claim is. On August 1, 2018, the Federal Circuit agreed with us that the PTAB had erred in its rulings for Auris. The court reversed the PTAB's decision against Otonomy and remanded the case for the PTAB to enter judgment for Otonomy. We continue to monitor patent applications filed and being prosecuted by Auris, in case we may need to consider similar or other actions.

If we fail to comply with our obligations in any of the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

We are a party to a number of license agreements under which we are granted intellectual property rights that are crucial to our business. A portion of our patent portfolio for our product and certain product candidates was co-developed and is co-owned with UC which licensed its rights to us through an exclusive worldwide license agreement. Under our existing license agreement with UC, we are subject to various obligations, including development and commercialization diligence obligations, and patent prosecution and maintenance obligations, as well as financial obligations such as potential development milestone payments, sublicensing income payments, and royalty payments. If we fail to comply with any of these obligations or otherwise breach other terms of our license agreement, and fail to cure such breach, UC may have the right to terminate the license or, in the instance where we fail to meet our diligence obligations, UC may instead elect to change our exclusive license to a non-exclusive license. The loss of the license from UC would affect a significant portion of the patent portfolio for OTIPRIO and OTIVIDEX, as well as certain other product candidates we may develop. While we could still proceed with development and, if approved, commercialization of OTIPRIO, OTIVIDEX and other product candidates as co-owner of the licensed patents, third parties, such as our competitors, could enter into the market by obtaining a license from UC under UC's rights to such patents.

In addition, a portion of our patent portfolio for our OTO-313 product candidate is exclusively in-licensed from Durect, which license includes a sublicense to patents jointly owned by Durect and INSERM. Under our existing license agreement with Durect, we are subject to various obligations, including development and commercialization diligence obligations and pre-commercial launch progress reporting obligations, as well as financial obligations such as potential development milestone payments, sublicensing income payments, and royalty payments to both Durect and INSERM. If we fail to comply with the diligence obligations or otherwise materially breach our license agreement and fail to remedy such failure or cure such breach, Durect may have the right to terminate the license or, in the instance of our failure to meet the diligence obligations, Durect may instead elect to convert our exclusive license to a non-exclusive license. In particular, the loss of the license from Durect would affect a portion of the patent portfolio for OTO-313, which would adversely affect our ability to proceed with any development or potential commercialization of OTO-313 and could subject us to claims of patent infringement by Durect if OTO-313 is covered by the licensed patents.

Licensing of intellectual property rights is of critical importance to our business and involves complex legal, business and scientific issues. Disputes may arise between us and our licensors regarding intellectual property rights subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;

- our right to sublicense intellectual property rights to third parties under collaborative development relationships; and
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product and product candidates, and what activities satisfy those diligence obligations.

While we would expect to exercise all rights and remedies available to us, including seeking to cure any breach by us, and otherwise seek to preserve our rights under the patents licensed to us, we may not be able to do so in a timely manner, at an acceptable cost or at all. Generally, the loss of any one of our current licenses, or any other license we may acquire in the future, could materially harm our business, prospects, financial condition and results of operations.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals, consultants and independent contractors who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise improperly used or disclosed confidential information of these third parties or their former employers. Further, we may be subject to ownership disputes in the future arising, for example, from conflicting obligations of consultants, independent contractors or others who are involved in developing our product candidates. We may also be subject to claims that former employees, consultants, independent contractors, collaborators or other third parties have an ownership interest in our patents or other intellectual property. Litigation may be necessary to defend against these and other claims challenging our right to and use of confidential and proprietary information. If we fail in defending any such claims, in addition to paying monetary damages, we may lose our rights therein. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

Risks Related to Government Regulation

Our business and products are subject to extensive government regulation.

We are subject to extensive, complex, costly and evolving regulation by federal and state governmental authorities in the United States, principally by the FDA, the U.S. Drug Enforcement Administration (DEA), the Centers for Disease Control and Prevention (CDC), the U.S. Department of Health and Human Services, and its various agencies, and also from state and foreign regulatory authorities. Failure to comply with all applicable regulatory requirements, including those promulgated under the Federal Food, Drug, and Cosmetic Act (FFDCA), the Public Health Service Act, and the Controlled Substances Act, among others, may subject us to operating restrictions and criminal prosecution, monetary penalties and other disciplinary actions, including, sanctions, warning letters, product seizures, recalls, fines, injunctions, suspension, revocation of approvals, disgorgement, contractual damages, and/or exclusion from future participation in the Medicare and Medicaid programs. After our products receive regulatory approval or clearance, we, and our direct and indirect suppliers, remain subject to the periodic inspection of our plants and facilities, review of production processes, and testing of our products to confirm that we are in compliance with all applicable regulations. Adverse findings during regulatory inspections may result in the implementation of Risk Evaluation and Mitigation Strategies (REMS), programs, completion of government mandated clinical trials, and government enforcement action relating to labeling, advertising, marketing and promotion, as well as regulations governing cGMPs.

The regulatory approval process is highly uncertain and we may not obtain regulatory approval for the commercialization of OTIVIDEX, OTO-313, OTO-413 or any other product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, which regulations differ from country to country. We are not permitted to market our product candidates in the United States until we receive approval of an NDA from the FDA. Obtaining regulatory approval of a product can be a lengthy, expensive and uncertain process. In addition, failure to comply with FDA and other applicable United States and foreign regulatory requirements may subject us to administrative or judicially imposed sanctions or other actions, including:

- warning letters and adverse publicity;
- civil and criminal penalties;
- injunctions;

- withdrawal of approved products;
- product seizure or detention;
- product recalls;
- total or partial suspension of production; and
- refusal to approve pending NDAs or supplements to approved NDAs.

Prior to obtaining approval to commercialize a product candidate in the United States or abroad, we must demonstrate with substantial evidence from well-controlled nonclinical studies and clinical trials, and to the satisfaction of the FDA or other foreign regulatory agencies, that such product candidates are safe and effective for their intended uses. Results from nonclinical studies and clinical trials can be interpreted in different ways, and insufficient or adverse results from nonclinical studies can affect the ability to conduct clinical trials. For example, following completion of a Phase 1b clinical trial, the OTIVIDEX program was put on Full

Clinical Hold due to adverse findings in a nonclinical study evaluating the safety of repeated doses of OTIVIDEX. OTIVIDEX was subsequently removed from Full Clinical Hold in July 2013, allowing for initiation of the Phase 2b single-dose clinical trial, and placed on Partial Clinical Hold prohibiting the initiation of multiple-dose clinical trials in the United States pending the submission and review of additional nonclinical data. We submitted additional nonclinical data to the FDA and OTIVIDEX was removed from Partial Clinical Hold in June 2014. As a result of OTIVIDEX being placed on Full Clinical Hold, OTIPRIO was also placed on Full Clinical Hold. The OTIPRIO Full Clinical Hold was removed in November 2012. We cannot assure you that our product candidates will not be subject to new clinical holds in the future.

Even if we believe the nonclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. Administering product candidates to humans may produce undesirable side effects, which could interrupt, delay or halt clinical trials and result in the FDA or other regulatory authorities denying approval of a product candidate for any or all targeted indications.

Regulatory approval is not guaranteed, and the approval process is expensive and may take several years. The FDA also has substantial discretion in the approval process. Despite the time and expense expended, failure can occur at any stage, and we could encounter problems that cause us to abandon or repeat clinical trials, or perform additional nonclinical studies and clinical trials. The number of nonclinical studies and clinical trials that will be required for FDA approval varies depending on the product candidate, the disease or condition that the product candidate is designed to address and the regulations applicable to any particular product candidate. The FDA can delay, limit or deny approval of a product candidate for many reasons, including the following:

- a product candidate may not be deemed safe, effective, pure or potent;
- FDA officials may not find the data from nonclinical studies and clinical trials sufficient;
- the FDA might not accept or approve our third-party manufacturers' processes or facilities; or
- the FDA may change its approval policies or adopt new regulations.

If OTIVIDEX, OTO-313, OTO-413 or any other product candidates fail to demonstrate safety and efficacy in clinical trials or do not gain approval, our business and results of operations will be materially and adversely harmed.

For our product, and if we receive regulatory approval for any of our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense, or the limiting or withdrawal of regulatory approval and subject us to penalties if we fail to comply with applicable regulatory requirements.

If and when regulatory approval has been granted, our product candidates or any approved product will be subject to continual regulatory review by the FDA and/or non-U.S. regulatory authorities. Additionally, our product and any product candidates, if approved, will be subject to extensive and ongoing regulatory requirements, including labeling and other restrictions and market withdrawal, and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products. Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indications for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product. In addition, for our product, and if the applicable regulatory agency approves our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include prompt submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMP and GCP for any clinical trials that we conduct post-approval. Later discovery of previously unknown problems with our product or our product candidates, including adverse events of unanticipated severity or frequency, or problems with our third-party manufacturers' processes, or failure to comply with regulatory requirements, may

result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

Our ongoing regulatory requirements may also change from time to time, potentially harming or making costlier our commercialization efforts. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or other countries. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business.

Our relationships with healthcare professionals, clinical investigators, CROs and third-party payors in connection with our current and future business activities may be subject to federal and state healthcare fraud and abuse laws, false claims laws, transparency laws, government price reporting, and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face penalties.

We are subject to various U.S. federal and state health care laws, including those intended to prevent healthcare fraud and abuse.

The federal Anti-Kickback Statute prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare, and Medicaid Remuneration has been broadly defined to include anything of value, including, but not limited to, cash, improper discounts, and free or reduced price items and services. Many states have similar laws that apply to their state health care programs as well as private payors.

Federal false claims laws, including the federal False Claims Act (FCA), and civil monetary penalties law impose penalties against individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment or approval that are false or fraudulent or making a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government. The FCA has been used to, among other things, prosecute persons and entities submitting claims for payment that are inaccurate or fraudulent, that are for services not provided as claimed, or for services that are not medically necessary. The FCA includes a whistleblower provision that allows individuals to bring actions on behalf of the federal government and share a portion of the recovery of successful claims. Many states also have similar laws that apply to their state health care programs as well as private payors.

Additionally, state and federal authorities have aggressively targeted medical technology companies for, among other things, alleged violations of these anti-fraud statutes, based on, for example, improper research or consulting contracts with doctors, certain marketing arrangements that rely on volume-based pricing, off-label marketing schemes, and other improper promotional practices.

The federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), among other things, imposes criminal liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.

Additionally, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH Act), and their implementing regulations, also imposes certain obligations, including mandatory contractual terms, on certain types of people and entities, with respect to safeguarding the privacy, security and transmission of individually identifiable health information without proper written authorization. Similarly, the collection and use of health data in the EU is governed by the General Data Protection Regulation (GDPR), which became fully applicable

in May 2018. The GDPR extends the geographical scope of EU Data protection law to non-EU entities under certain conditions, tightens existing EU data protection principles and creates new obligations for companies and new rights for individuals. The GDPR is new and guidance, interpretation and application under the GDPR are still developing. Failure to comply with the GDPR may result in substantial fines and other administrative penalties. The GDPR may increase our responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms ensuring compliance with the GDPR. This may be onerous and if our efforts to comply with GDPR or other applicable EU laws and regulations are not successful, it could adversely affect our business in the EU.

Since the approval of OTIPRIO, our operations have been subject to the federal transparency requirements under the ACA, which requires certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid, or the Children’s Health Insurance Program, with specific exceptions, to annually report to CMS information related to payments and other transfers of value provided to physicians and teaching hospitals and certain ownership and investment interests held by physicians and their immediate family members.

If any of our business activities, including but not limited to our relationships with healthcare providers or payors, violate any of the aforementioned laws, we may be subject to administrative, civil and/or criminal penalties, damages, monetary fines, disgorgement, individual imprisonment, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations.

In addition, the U.S. Foreign Corrupt Practices Act and similar worldwide anti-bribery laws generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. We cannot assure you that our internal control policies and procedures will protect us from reckless or negligent acts committed by our employees, future distributors, partners, collaborators or agents. Violations of these laws, or allegations of such violations, could result in fines, penalties or prosecution and have a negative impact on our business, results of operations and reputation.

Legislative or regulatory healthcare reforms in the United States or abroad may make it more difficult and costly for us to obtain regulatory clearance or approval of our product candidates or any future product candidates and to produce, market, and distribute our products after clearance or approval is obtained.

From time to time, legislation is drafted and introduced in Congress in the United States or by governments in foreign jurisdictions that could significantly change the statutory provisions governing the regulatory clearance or approval, manufacture, and marketing of regulated products or the reimbursement thereof. In addition, FDA or foreign regulatory agency regulations and guidance are often revised or reinterpreted by the FDA or the applicable foreign regulatory agency in ways that may significantly affect our business and our product and product candidates. Any new regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of our product candidates or any future product candidates. We cannot determine what effect changes in regulations, statutes, legal interpretation or policies, when and if promulgated, enacted or adopted may have on our business in the future. Such changes could, among other things, require:

- changes to manufacturing methods;
- recall, replacement, or discontinuance of one or more of our products; and
- additional recordkeeping.

Each of these would likely entail substantial time and cost and could materially harm our business and our financial results. In addition, delays in receipt of or failure to receive regulatory clearances or approvals for any future products would harm our business, financial condition, and results of operations.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

We maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials or other work-related injuries with policy limits that we

believe are customary for similarly situated companies and adequate to provide us with coverage for foreseeable risks. Although we maintain such insurance, this insurance may not provide adequate coverage against potential liabilities. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

We are subject to U.S. and certain foreign export and import controls, sanctions, embargoes, anti-corruption laws, and anti-money laundering laws and regulations. Compliance with these legal standards could impair our ability to compete in domestic and international markets. We can face criminal liability and other serious consequences for violations which can harm our business.

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls, the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, the UK Bribery Act 2010, and other state and national anti-bribery and anti-money laundering laws in the countries in which we conduct activities. U.S. economic sanctions and export control laws and regulations prohibit the shipment of certain products and services to countries, governments, and persons targeted by U.S. sanctions. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors, and other partners from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector.

We may engage third parties for clinical trials outside of the United States, to sell our products abroad once we enter a commercialization phase, and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We also have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We can be held liable for any unauthorized exports and reexports of our products and for the corrupt or other illegal activities of our employees, agents, contractors, and other partners, even if we do not explicitly authorize or have actual knowledge of such activities. Any violation of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

Risks Related to Ownership of Our Common Stock

The market price of our common stock has been and may continue to be volatile, and you could lose all or part of your investment.

Our stock is currently traded on The Nasdaq Global Select Market, but we can provide no assurance that we will be able to maintain an active trading market on The Nasdaq Global Select Market or any other exchange in the future. Moreover, the trading price of our common stock may fluctuate substantially.

The stock market in general and the market for pharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price of our common stock following our initial public offering has been and is likely to continue to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including:

- regulatory or legal developments;
- results from or delays in clinical trials of our product candidates or product candidates of companies that are perceived to be similar to us;
- announcements of regulatory approval or disapproval of our product candidates;
- commercialization of our products;
- FDA or other regulatory actions affecting us or our industry;
- introductions and announcements of new products by us, any commercialization partners or our competitors, and the timing of these introductions and announcements;
- our financial results or those of companies that are perceived to be similar to us;

- changes in the structure of healthcare payment systems;
- announcements by us or our competitors of significant acquisitions, licenses, strategic partnerships, joint ventures or capital commitments;
- market conditions in the pharmaceutical and biopharmaceutical sectors and issuance of securities analysts' reports or recommendations;
- actual or anticipated quarterly variations in our results of operations or those of our competitors;
- changes in financial estimates or guidance, including our ability to meet our revenue, operating profit or loss and cash balance estimates or guidance;
- sales of substantial amounts of our stock by insiders and large stockholders, or the expectation that such sales might occur;
- general economic, industry and market conditions;

- additions or departures of key personnel;
- intellectual property, product liability or other litigation against us;
- expiration or termination of our potential relationships with strategic partners;
- limited trading volume of our common stock; and
- the other factors described in this "Risk Factors" section.

If securities or industry analysts do not continue to publish research or publish unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will be influenced in part on the research and reports that equity research analysts publish about us and our business. Although certain equity research analysts currently cover us, we do not have any control of the analysts or the content and opinions included in their reports or whether any such analysts will continue to, or whether new analysts will, cover us for any given period of time. The price of our common stock could decline if one or more equity research analysts downgrade our stock or issue other unfavorable commentary or research. If one or more equity research analyst ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which in turn could cause our stock price or trading volume to decline.

Sales of substantial amounts of our common stock in the public markets, or the perception that such sales might occur, could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline significantly.

As of September 30, 2018, certain holders of approximately 4,192,638 shares of our common stock, including shares issuable upon the exercise of outstanding options, are entitled to certain rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by our affiliates as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the market price of our common stock.

If we sell shares of our common stock in future financings, stockholders may experience immediate dilution and, as a result, the market price of our common stock may decline.

We may from time to time issue additional shares of common stock at a discount from the current trading price of our common stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. In September 2015, our shelf registration statement on Form S-3 (File No. 333-206752) was declared effective by the SEC and in January 2016 we sold 5,750,000 shares of common stock pursuant to such shelf registration statement. In September 2018, our new shelf registration statement on Form S-3 (File No. 333-227269) was declared effective by the SEC, pursuant to which we may offer debt securities, preferred stock, common stock and certain other securities from time to time. If in the future we issue additional shares of common stock or securities convertible into common stock, our common stockholders would experience additional dilution and, as a result, the market price of our common stock may decline.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- We will indemnify our directors and officers for serving us in those capacities, or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- We may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- We are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.
- We are not obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification.
- The rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons.
- We may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

To the extent that a claim for indemnification is brought by any of our directors or officers, it would reduce the amount of funds available for use in our business.

Concentration of ownership of our common stock among our existing principal stockholders may effectively limit the voting power of other stockholders.

As of September 30, 2018, our executive officers, directors and current beneficial owners of 5% or more of our common stock, in aggregate, beneficially owned approximately 36.8% of our outstanding common stock. Accordingly, these stockholders, acting together, may significantly influence all matters requiring stockholder approval, including the election and removal of directors and any merger or other significant corporate transactions. These stockholders may therefore delay or prevent a change of control, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the market price of our common stock due to investors' perception that conflicts of interest may exist or arise.

Anti-takeover provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult, which could discourage takeover attempts and lead to management entrenchment, and the market price of our common stock may be lower as a result.

Certain provisions in our certificate of incorporation and bylaws may make it difficult for a third party to acquire, or attempt to acquire, control of our company, even if a change in control was considered favorable by you and other stockholders. For example, our board of directors has the authority to issue up to 10,000,000 shares of preferred stock. Our board of directors can fix the price, rights, preferences, privileges, and restrictions of the preferred stock without any further vote or action by our stockholders. The issuance of shares of preferred stock may delay or prevent a change in control transaction. As a result, the market price of our common stock and the voting and other rights of our stockholders may be adversely affected. An issuance of shares of preferred stock may result in the loss of voting control to other stockholders.

Our charter documents contain other provisions that could have an anti-takeover effect, including provisions that:

- establish that our board of directors is divided into three classes, Class I, Class II and Class III, with each class serving staggered three-year terms;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- provide that our directors may only be removed for cause;
- eliminate cumulative voting in the election of directors;
- authorize our board of directors to issues shares of preferred stock and determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval;

- provide our board of directors with the exclusive right to elect a director to fill a vacancy or newly created directorship;
- permit stockholders to only take actions at a duly called annual or special meeting and not by written consent;
- prohibit stockholders from calling a special meeting of stockholders;
- require that stockholders give advance notice to nominate directors or submit proposals for consideration at stockholder meetings;
- authorize our board of directors, by a majority vote, to amend the bylaws; and
- require the affirmative vote of at least 66 2/3% or more of the outstanding shares of common stock to amend many of the provisions described above.

In addition, we are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us. Finally, our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders. These provisions could discourage potential acquisition proposals and could delay or prevent a change in control transaction. They could also have the effect of discouraging others from making tender offers for our common stock, including transactions that may be in your best interests. These provisions may also prevent changes in our management or limit the price that certain investors are willing to pay for our stock.

We may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock has been and will likely continue to be volatile, and in the past companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, will be your sole source of gains.

We have not declared or paid cash dividends on our common stock to date. We currently intend to retain our future earnings, if any, to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Our ability to use our net operating loss carryforwards and certain other tax attributes to offset future taxable income may be subject to certain limitations.

As of December 31, 2017, we had U.S. federal and state net operating loss carryforwards (NOLs) of approximately $241.6 million and $101.3 million, respectively, which expire in various years beginning in 2030, if not utilized. As of December 31, 2017, we had federal and California research and development tax credit carryforwards of approximately $7.9 million and $3.9 million, respectively. The federal research and development tax credit carryforwards expire in various years beginning in 2030, if not utilized. The California research and development credit will carry forward indefinitely. Under Sections 382 and 383 of Internal Revenue Code of 1986, as amended (Code) if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change NOLs and other pre-change tax attributes, such as research tax credits, to offset its future post-change income and taxes may be limited. In general, an "ownership change" occurs if there is a cumulative change in our ownership by "5% shareholders" that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under state tax laws. We believe we have experienced certain ownership changes in the past and have reduced our deferred tax assets related to NOLs and research and development tax credit carryforwards accordingly. In the event that it is determined that we have in the past experienced additional ownership changes, or if we experience one or more ownership changes as a result of future transactions in our stock, then we may be further limited in our ability to use our NOLs and other tax

assets to reduce taxes owed on the net taxable income that we earn in the event that we attain profitability. Any such limitations on the ability to use our NOLs and other tax assets could adversely impact our business, financial condition and operating results in the event that we attain profitability.

The recently passed comprehensive tax reform bill could adversely affect our business and financial condition.

On December 22, 2017, President Trump signed into law new legislation that significantly revises the Code. The newly enacted federal income tax law, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for net operating losses to 80% of current year taxable income and elimination of net operating loss carrybacks, immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing many business deductions and credits. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the new federal tax law is uncertain, and our business and financial condition could be adversely affected. Our net deferred tax assets and liabilities were revalued at the newly-enacted U.S. corporate rate. We do not expect this to have a material impact on our financials because we currently maintain a full valuation allowance on our U.S. deferred tax assets. We have reflected reasonable estimates of the effects of certain aspects of this legislation in our financial statements. We continue to examine the impact that this tax reform legislation may have on our business and will continue to make and refine our calculations of the effects of this legislation. In addition, it is uncertain if and to what extent various states will conform to the newly enacted federal tax law.

We have incurred and will continue to incur costs as a result of operating as a public company, and our management has been and will continue to be required to devote substantial time to new compliance initiatives and corporate governance practices, including maintaining an effective system of internal control over financial reporting.

As a public company listed in the United States, and increasingly after we are no longer an “emerging growth company,” we have incurred and will continue to incur significant additional legal, accounting and other expenses that we did not incur as a private company. In addition, changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act and regulations implemented by the SEC, and The NASDAQ Stock Market (NASDAQ) may increase legal and financial compliance costs and make some activities more time consuming. These laws, regulations and standards are subject to varying interpretations and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management’s time and attention from revenue-generating activities to compliance activities. If notwithstanding our efforts to comply with new laws, regulations and standards, we fail to comply, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

As a public company in the United States, we are required, pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 (Section 404), to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. We need to disclose any material weaknesses identified by our management in our internal control over financial reporting, and when we are no longer an “emerging growth company,” we will need to provide a statement that our independent registered public accounting firm has issued an opinion on our internal control over financial reporting. Our first report on compliance with Section 404 was furnished in connection with our financial statements for the year ended December 31, 2015.

The controls and other procedures are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC, is disclosed accurately and is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms. We are in the early stages of conforming our internal control procedures to the requirements of Section 404, and we may not be able to complete our evaluation, testing and any required remediation needed to comply with Section 404 in a timely fashion. Our independent registered public accounting firm was not engaged to perform an audit of our internal control over financial reporting for the year ended

December 31, 2017 or for any other period. Accordingly, no such opinion was expressed in this Quarterly Report on Form 10-Q.

Even after we develop these new procedures, these new controls may become inadequate because of changes in conditions or the degree of compliance with these policies or procedures may deteriorate and material weaknesses in our internal control over financial reporting may be discovered. We may err in the design or operation of our controls, and all internal control systems, no matter how well designed and operated, can provide only reasonable assurance that the objectives of the control system are met. Because there are inherent limitations in all control systems, there can be no absolute assurance that all control issues have been or will be detected. If we are unable, or are perceived as unable, to produce reliable financial reports due to internal control deficiencies, investors could lose confidence in our reported financial information and operating results, which could result in a negative market reaction.

To fully comply with Section 404, we will need to retain additional employees to supplement our current finance staff, and we may not be able to do so in a timely manner, or at all. In addition, in the process of evaluating our internal control over financial reporting, we expect that certain of our internal control practices will need to be updated to comply with the requirements of Section 404 and the regulations promulgated thereunder, and we may not be able to do so on a timely basis, or at all. In the event that we are not able to demonstrate compliance with Section 404 in a timely manner or are unable to produce timely or accurate financial statements, we may be subject to sanctions or investigations by regulatory authorities, such as the SEC or NASDAQ, and investors may lose confidence in our operating results and the price of our common stock could decline. Furthermore, if we are unable to certify that our internal control over financial reporting is effective and in compliance with Section 404, we may be subject to sanctions or investigations by regulatory authorities, such as the SEC or NASDAQ, and we could lose investor confidence in the accuracy and completeness of our financial reports, which could hurt our business, the price of our common stock and our ability to access the capital markets.

We also expect that being a public company will make it more difficult for us to attract and retain qualified persons to serve on our board of directors, on committees of our board of directors or as members of senior management.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act enacted in April 2012, as amended, and may remain an "emerging growth company" for up to five years following the completion of our initial public offering, or December 31, 2019, although, if we have more than $1.07 billion in annual revenue, the market value of our common stock that is held by non-affiliates exceeds $700 million as of June 30 of any year, or we issue more than $1.0 billion of non-convertible debt over a three-year period before the end of that five-year period, we would cease to be an "emerging growth company" as of the following December 31. For as long as we remain an "emerging growth company," we are permitted and intend to continue to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not "emerging growth companies." These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's discussion and analysis of financial condition and results of operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards, delaying the adoption of these accounting standards until they would apply to private companies. We have irrevocably elected not to avail ourselves of this exemption and, as a result, we have and will continue to adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies. We cannot predict whether investors will find our common stock less attractive as a result of our reliance on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and the market price of our common stock may be reduced or more volatile.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULT UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES
Not applicable.

ITEM 5. OTHER INFORMATION
None.

ITEM 6. EXHIBITS

The following is a list of exhibits filed as part of this Quarterly Report on Form 10-Q:

Exhibit Number	Description of Document	Incorporated by Reference Herein			
		Form	File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of the Registrant, as amended, as currently in effect.	S-1/A	333-197365	3.2	August 1, 2014
3.2	Amended and Restated Bylaws of the Registrant.	S-1/A	333-197365	3.4	August 1, 2014
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1+	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2+	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS	XBRL Instance Document.				
101.SCH	XBRL Taxonomy Extension Schema Document.				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.				
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document.				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.				

+ In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release Nos. 33-8238 and 34-47986, Final Rule; Management's Reports on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, the Certification furnished in Exhibit 32.1 and 32.2 hereto is deemed to accompany this Form 10-Q and will not be filed for purposes of Section 18 of the Exchange Act. Such certification will not be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the

Registrant specifically incorporates it by reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

OTONOMY, INC.

Date: November 5, 2018 By: /s/ David A. Weber
David A. Weber, Ph.D.
President and Chief Executive Officer

OTONOMY, INC.

Date: November 5, 2018 By: /s/ Paul E. Cayer
Paul E. Cayer
Chief Financial and Business Officer