

## Otonomy, Inc. (OTIC)

## Overweight

## Reiterate OW On OTIC Following Travels With Management

## CONCLUSION

We reiterate our Overweight rating and a price target of \$46 following 2-day investor meetings hosted with the OTIC management in NYC. We saw high interest in the story among the investors and they all appeared to agree that OTIC has an active drug (OTO-104) in treating Meniere-induced vertigo which should have a viable path forward after the P2 trial barely missed its primary endpoint. The lead asset AuriPro is currently in the hands of the FDA which should be approved by the agency before year-end. We believe it alone should be more than sufficient to support OTIC's current valuation (EV of ~\$350M) in the context of peak sales of over \$200M according to our estimates. As such, we believe OTIC offers one of few rare opportunities in small-cap biotech space with asymmetric risk and reward profile. It remains our top-pick small cap name.

- **AuriPro launch a major focus:** With 2 positive P3 data in hand and likely no AdComm meeting required, we expect a timely approval before year-end. While the management was cautious in setting expectation for AuriPro launch in 2016 due to P&T committee approvals for hospitals (which usually take 6-9 months), investors seemed to be favorable about the commercial opportunities which AuriPro presents. The low hanging fruit for AuriPro launch is to replace Ciprodex usage in TTP settings, which is currently being used off-label in ~50% of TTP surgeries, representing a market opportunity of >\$100M for AuriPro. With roughly 50% of kids with tubes experiencing multiple re-infections, OTIC should be able to easily expand the AuriPro label into this condition, which offers an equally large commercial opportunity. The company recently successfully finished a feasibility study of administering AuriPro in awake pediatric pts wearing tubes. We expect the company to move AuriPro into a registration trial for this indication in 2016/2017.
- **What is next for Meniere?** Investors acknowledged 104 appears to be a real drug against Meniere-induced vertigo. With one or few small tweaks in the trial design (e.g. tighten patient selection criteria which have been used extensively in migraine and seizure trials, modify statistical analysis), we believe the probability of hitting statistical significance for the upcoming P3 trials (2 identical trials with the 1st one to start by year-end and the 2nd one shortly after) is high. The company is meeting the FDA in the summer and plans to provide an update on 104 and prep for AuriPro launch at the analyst day expected in the fall.
- **Tinnitus program:** OTO-301, an IT gel formulation of gacyclidine, remains on track to file an IND by year-end. We believe EARS's AM-101 P3 readout, which is expected in Q1 2016, offers a free call option for OTIC shares.

## RISKS TO ACHIEVEMENT OF PRICE TARGET

Development candidates may face clinical, regulatory or commercial setbacks.

## COMPANY DESCRIPTION

OTIC is developing drugs to treat a variety of ear conditions.

PRICE: US\$22.32

TARGET: US\$46.00

DCF thru 2022, 10.5% discount rate, 3.0% terminal growth rate

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Changes	Previous	Current
Rating	—	Overweight
Price Tgt	—	US\$46.00
FY15E Rev (mil)	—	US\$0.0
FY16E Rev (mil)	—	US\$13.0
FY15E EPS	—	US\$(2.98)
FY16E EPS	—	US\$(3.76)

52-Week High / Low	US\$41.99 / US\$15.19
Shares Out (mil)	24.2
Market Cap. (mil)	US\$540.1
Avg Daily Vol (ooo)	248
Book Value/Share	US\$7.26
Net Cash Per Share	US\$7.37
Debt to Total Capital	0.0%
Div (ann)	US\$0.00
Fiscal Year End	Dec

## Price Performance - 1 Year



Source: Bloomberg

YEAR	REVENUE (US\$ m)						EARNINGS PER SHARE (US\$)					
	Mar	Jun	Sep	Dec	FY	FY RM	Mar	Jun	Sep	Dec	FY	FY P/E
2014A	0.0	0.0	0.0	0.0	0.0	NA	(5.07)	(3.86)	(1.23)	(0.46)	(5.46)	NM
2015E	0.0A	0.0	0.0	0.0	0.0	NA	(0.52)A	(0.64)	(0.80)	(1.01)	(2.98)	NM
2016E	—	—	—	—	13.0	41.5X	—	—	—	—	(3.76)	NM

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Key Events For OTIC				
Program	Disorder	Type	Event	Expected Timing
AuriPro	TTP	Regulatory	FDA Approval	2H 2015
	AOMT	Clinical	P2 results	2015/2016
	New Indication	Clinical	Initiate trials in additional indications	2015
OTO-104	Ménière's disease	Clinical	Initiate the first P3 trial	2H 2015
		Clinical	Initiate the second P3 trial	1H 2016
OTO-311	Tinnitus	Preclinical	File IND and initiate P1b study	2015
		Competitive/ validating	Auris Medical P3 data for AM-101	1H 2016

Source: Company reports and Piper Jaffray

OTIC Discounted Cash Flow (DCF) and Equity Valuation (\$ M):	
Assumed Discount Rate (%)	10.5%
Discounted Net Cash Flow (2014-'20)	846
Terminal Growth Rate (%)	3.0%
Implied Terminal Year FCF Multiple	13.7x
NPV of FCFF	\$1,145
Terminal Value as % of total	26.1%
Add: Net Cash	201
Shares Outstanding 2017E (million)	29
Price Target	\$46

Source: Company Reports and Piper Jaffray.

OTIC DCF Valuation Analysis					
Discount Rate					
Terminal Growth		10.0%	10.5%	11.0%	11.5%
	2.0%	\$44	\$41	\$37	\$34
	3.0%	\$51	\$46	\$42	\$38
	4.0%	\$59	\$53	\$48	\$43
	5.0%	\$71	\$63	\$56	\$50
	6.0%	\$89	\$77	\$67	\$59

Source: Company Reports and Piper Jaffray.

OTIC Potential Upside Vs Current					
Discount Rate					
Terminal Growth		10.0%	10.5%	11.0%	11.5%
	2.0%	99%	82%	67%	54%
	3.0%	127%	106%	88%	72%
	4.0%	165%	138%	114%	94%
	5.0%	218%	181%	150%	124%
	6.0%	297%	243%	200%	165%

Source: Company Reports and Piper Jaffray.

<b>OTIC Annual P&amp;L</b>	<b>2013A</b>	<b>Q1 14A</b>	<b>Q2 14A</b>	<b>Q3 14A</b>	<b>Q4 14A</b>	<b>2014A</b>	<b>Q1 15A</b>	<b>Q2 15E</b>	<b>Q3 15E</b>	<b>Q4 15E</b>	<b>2015E</b>
<b>Total U.S. Product Sales (000s)</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
ex-US royalty	\$0	0.0	0.0	0.0	0.0	\$0	0.0	0.0	0.0	0.0	\$0
<b>Total Revenues</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Costs &amp; Expenses:</b>											
Cost of Goods Sold	\$0	0.0	0.0	0.0	0.0	\$0	0.0	0.0	0.0	0.0	\$0
% Product sales	0	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
R&D	\$16	9.0	8.3	7.4	7.2	\$32	8.6	12.0	13.0	15.0	\$49
% Revenue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SG&A	\$4	1.6	1.6	2.0	2.7	\$8	3.5	3.0	6.0	9.0	\$22
% Revenue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Operating Expenses	\$20	10.6	9.8	9.4	9.9	\$40	12.1	15.0	19.0	24.0	\$70
<b>Operating Income (loss)</b>	<b>\$2</b>	<b>(10.6)</b>	<b>(9.8)</b>	<b>(9.4)</b>	<b>(9.9)</b>	<b>(\$40)</b>	<b>(12.1)</b>	<b>(15.0)</b>	<b>(19.0)</b>	<b>(24.0)</b>	<b>(\$70)</b>
Interest and Other Income, Net	\$0	(0.3)	(0.3)	(2.6)	0.1	(\$3)	0.1	0.1	0.1	0.1	\$1
Accretion, convertible preferred	(\$1)	(0.0)	(0.0)	(0.0)	0.0	(\$0)	0.0	0.0	0.0	0.0	\$0
<b>Pretax Income (Loss)</b>	<b>\$2</b>	<b>(\$11)</b>	<b>(\$10)</b>	<b>(\$12)</b>	<b>(\$10)</b>	<b>(\$43)</b>	<b>(\$12)</b>	<b>(\$15)</b>	<b>(\$19)</b>	<b>(\$24)</b>	<b>(\$69)</b>
Income Taxes (Benefit)	\$0	0.0	0.0	0.0	0.0	\$0	0.0	0.0	0.0	0.0	\$0
Tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Net Income, adjusted (GAAP)</b>	<b>\$22</b>	<b>(10.8)</b>	<b>(10.2)</b>	<b>(12.0)</b>	<b>(9.8)</b>	<b>(\$43)</b>	<b>(12.0)</b>	<b>(14.9)</b>	<b>(18.9)</b>	<b>(23.9)</b>	<b>(\$70)</b>
Stock option expenses	0	0.3	0.3	0.3	0.9	2	1	1	1	1	2
% Revenue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net Income, non-GAAP	\$22	-10.6	-9.9	-11.8	-8.9	(\$41)	(12.5)	(15.4)	(19.4)	(24.4)	(\$72)
Diluted EPS (Non-GAAP)	\$4.92	(\$4.95)	(\$3.76)	(\$1.20)	(\$0.42)	(\$5.24)	(\$0.54)	(\$0.66)	(\$0.83)	(\$1.03)	(\$3.06)
<b>Diluted EPS, GAAP</b>	<b>\$4.96</b>	<b>(\$5.07)</b>	<b>(\$3.86)</b>	<b>(\$1.23)</b>	<b>(\$0.46)</b>	<b>(\$5.46)</b>	<b>(\$0.52)</b>	<b>(\$0.64)</b>	<b>(\$0.80)</b>	<b>(\$1.01)</b>	<b>(\$2.98)</b>
Diluted Shares Outstanding (MM)	4.5	2.1	2.6	9.8	21.2	7.9	23.2	23.3	23.5	23.6	23

Source: Company Reports and Piper Jaffray.

Current disclosure information for this company can be found at <http://www.piperjaffray.com/researchdisclosures>.

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OTIC Product Model	2012A	2013A	2014A	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
TTP Procedures/Yr, U.S. (000s)	1,000	1,000	1,000	1,005	1,010	1,015	1,020	1,025	1,030	1,036	1,041
% children	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
# children TTP procedures/yr, U.S. (000s)	900	900	900	905	909	914	918	923	927	932	937
% of market without payor obstacles	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
% penetration, low barrier population	0%	0%	0%	0%	10%	20%	30%	35%	40%	45%	50%
% penetration, high barrier population	0%	0%	0%	0%	2%	5%	15%	20%	25%	30%	35%
# adult TTP procedures/yr, U.S. (000s)	100	100	100	101	101	102	102	103	103	104	104
% penetration, adults	0%	0%	0%	0%	1%	5%	15%	35%	40%	50%	50%
AuriPro treatments/yr, U.S. (000s)	\$0	\$0	\$0	\$0	\$59	126	229	297	350	408	457
Cost/treatment	\$225	\$225	\$225	\$225	\$225	234	243	253	263	274	285
<b>Total AuriPro revenue, U.S. (mm) For TTP</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$13</b>	<b>\$30</b>	<b>\$56</b>	<b>\$75</b>	<b>\$92</b>	<b>\$112</b>	<b>\$135</b>
<b>AuriPro revenue, Other (mm)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10</b>	<b>\$25</b>	<b>\$40</b>	<b>\$55</b>	<b>\$65</b>
<b>Total AuriPro revenue, U.S. (mm)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$13</b>	<b>\$30</b>	<b>\$66</b>	<b>\$100</b>	<b>\$132</b>	<b>\$167</b>	<b>\$200</b>
Meniere's patients, U.S. (000s)	650	650	650	663	676	697	717	746	776	807	839
% OTO-104 penetration	0%	0%	0%	0%	0%	0%	1%	3%	5%	6%	7%
OTO-104 ears treated, U.S. (000s)	0	0	0	0	0	0	4	19	39	48	59
Cost/yr	\$5,000	\$5,000	\$5,000	\$5,000	\$5,150	\$5,305	\$5,517	\$5,737	\$5,967	\$6,206	\$6,454
<b>OTO-104 revenue/yr, U.S. (mm)</b>	<b>\$0</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$20</b>	<b>\$107</b>	<b>\$232</b>	<b>\$300</b>	<b>\$380</b>

Source: Company reports, PJC estimates

<b>OTIC Annual P&amp;L</b>	<b>2012A</b>	<b>2013A</b>	<b>2014A</b>	<b>2015E</b>	<b>2016E</b>	<b>2017E</b>	<b>2018E</b>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>
<b>Total U.S. Product Sales (000s)</b>	<b>\$0</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$13</b>	<b>\$30</b>	<b>\$85</b>	<b>\$207</b>	<b>\$364</b>	<b>\$467</b>	<b>\$580</b>
ex-US royalty	\$0	\$0	\$0	\$0	\$0	\$5	\$15	\$25	\$30	\$35	\$50
<b>Total Revenues</b>	<b>\$0</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$13</b>	<b>\$35</b>	<b>\$100</b>	<b>\$232</b>	<b>\$394</b>	<b>\$502</b>	<b>\$630</b>
Cost of Goods Sold	\$0	\$0	\$0	\$0	\$1	\$3	\$9	\$21	\$36	\$47	\$58
% Product sales	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
R&D	\$8.5	\$16.3	\$32	\$49	\$50	\$50	\$55	\$55	\$75	\$75	\$80
% Revenue	N/A	N/A	N/A	N/A	N/A	N/A	54.7%	23.7%	19.1%	14.9%	12.7%
SG&A	\$2.4	\$3.5	\$8	\$22	\$70	\$85	\$100	\$120	\$150	\$165	\$180
% Revenue	N/A	N/A	N/A	N/A	N/A	N/A	99.5%	51.7%	38.1%	32.9%	28.6%
Total Operating Expenses	\$10.9	\$19.9	\$40	\$70	\$121	\$138	\$164	\$196	\$261	\$287	\$318
<b>Operating Income (loss)</b>	<b>(10.9)</b>	<b>2.5</b>	<b>(\$40)</b>	<b>(\$70)</b>	<b>(\$108)</b>	<b>(\$103)</b>	<b>(\$63)</b>	<b>\$36</b>	<b>\$132</b>	<b>\$216</b>	<b>\$312</b>
Interest and Other Income, Net	\$3.4	\$0.3	(\$3)	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Accretion, convertible preferred	(0.8)	(0.5)	(\$0)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Pretax Income (Loss)</b>	<b>(\$8)</b>	<b>\$2</b>	<b>(\$43)</b>	<b>(\$69)</b>	<b>(\$107)</b>	<b>(\$102)</b>	<b>(\$62)</b>	<b>\$37</b>	<b>\$133</b>	<b>\$217</b>	<b>\$313</b>
Income Taxes (Benefit)	0.0	0.0	\$0	\$0	\$0	\$0	\$0	\$11	\$40	\$65	\$94
Tax rate	0%	0%	0%	0%	0%	0%	0%	30%	30%	30%	30%
<b>Net Income, adjusted (GAAP)</b>	<b>(8.37)</b>	<b>2.2</b>	<b>(\$43)</b>	<b>(\$70)</b>	<b>(\$107)</b>	<b>(\$102)</b>	<b>(\$62)</b>	<b>\$26</b>	<b>\$93</b>	<b>\$152</b>	<b>\$219</b>
Stock option expenses	0	0	2	2	2	3	4	5	8	10	13
% Revenue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2%	2%	2%	2%
Net Income, non-GAAP	(\$8.6)	\$2.0	(\$41)	(\$68)	(\$105)	(\$99)	(\$59)	\$31	\$101	\$162	\$232
Diluted EPS (Non-GAAP)	(\$3.46)	\$0.45	(\$5.24)	(\$2.89)	(\$3.69)	(\$3.40)	(\$1.83)	\$0.93	\$2.95	\$4.55	\$6.28
<b>Diluted EPS, GAAP</b>	<b>(\$3.38)</b>	<b>\$0.49</b>	<b>(\$5.46)</b>	<b>(\$2.98)</b>	<b>(\$3.76)</b>	<b>(\$3.50)</b>	<b>(\$1.94)</b>	<b>\$0.79</b>	<b>\$2.72</b>	<b>\$4.27</b>	<b>\$5.94</b>
Diluted Shares Outstanding (MM)	2.5	4.5	7.9	23.4	28.5	29.3	31.9	33.0	34.2	35.5	36.9

Source: Company Reports and Piper Jaffray.

<b>Cash Flow Statement</b>	<b>2012A</b>	<b>2013A</b>	<b>2014A</b>	<b>2015E</b>	<b>2016E</b>	<b>2017E</b>	<b>2018E</b>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>
Net Income (Loss)	-8.4	2.2	-42.8	-69.7	-107.0	-102.4	-62.1	26.2	93.2	151.6	219.3
Accretion to RV of convert	0.8	0.5	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation and amortization	0.2	0.3	0.2	0.5	1.0	1.2	1.3	1.4	2.0	2.5	3.0
Stock-based compensation	0.2	0.2	1.7	2.0	2.0	3.0	3.5	4.6	7.9	10.0	12.6
Non cash interest exp	0.4	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in FV of convert	(3.8)	(2.8)	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred rent	0.3	(0.0)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Changes in operating assets and liability	(0.6)	(0.0)	2.6	(1.0)	(1.7)	(5.4)	(17.5)	(36.0)	(41.0)	(27.8)	(32.8)
<b>Cash From Operations</b>	<b>(10.8)</b>	<b>2.9</b>	<b>(35.1)</b>	<b>(68.2)</b>	<b>(105.7)</b>	<b>(103.7)</b>	<b>(74.8)</b>	<b>(3.8)</b>	<b>62.1</b>	<b>136.3</b>	<b>202.1</b>
Capex	(0.2)	(0.5)	(0.8)	(2.0)	(2.5)	(3.0)	(3.5)	(3.5)	(5.9)	(7.5)	(9.5)
<b>FCF</b>	<b>(11.0)</b>	<b>2.4</b>	<b>(35.9)</b>	<b>(70.2)</b>	<b>(108.2)</b>	<b>(106.7)</b>	<b>(78.3)</b>	<b>(7.3)</b>	<b>56.2</b>	<b>128.8</b>	<b>192.7</b>
Proceeds from convertible notes	8.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from issuance of conv pref stocks	0.0	45.6	49.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from issuance of common stocks	0.0	0.0	104.1	80.0	200.0	0.0	100.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Cash From Financing</b>	<b>8.0</b>	<b>52.6</b>	<b>154.7</b>	<b>80.0</b>	<b>200.0</b>	<b>0.0</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Net increase in cash and cash equivalents	(3.0)	55.0	118.8	9.8	91.8	(106.7)	21.7	(7.3)	56.2	128.8	192.7
Cash/equivalents at beginning	7.7	4.7	59.6	178.4	188.2	280.0	173.4	195.1	187.8	244.0	372.7
Cash/equivalents at end	4.7	59.6	178.4	188.2	280.0	173.4	195.1	187.8	244.0	372.7	565.4

Proprietary to Piper Jaffray & Co. July 9, 2015

## IMPORTANT RESEARCH DISCLOSURES



Notes: The boxes on the Rating and Price Target History chart above indicate the date of the Research Note, the rating, and the price target. Each box represents a date on which an analyst made a change to a rating or price target, except for the first box, which may only represent the first Note written during the past three years.

### Legend:

I: Initiating Coverage  
R: Resuming Coverage  
T: Transferring Coverage  
D: Discontinuing Coverage  
S: Suspending Coverage  
OW: Overweight  
N: Neutral  
UW: Underweight  
NA: Not Available  
UR: Under Review

Distribution of Ratings/IB Services Piper Jaffray				
Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
<b>BUY [OW]</b>	418	59.80	102	24.40
<b>HOLD [N]</b>	263	37.63	15	5.70
<b>SELL [UW]</b>	18	2.58	0	0.00

Note: Distribution of Ratings/IB Services shows the number of companies currently in each rating category from which Piper Jaffray and its affiliates received compensation for investment banking services within the past 12 months. FINRA rules require disclosure of which ratings most closely correspond with "buy," "hold," and "sell" recommendations. Piper Jaffray ratings are not the equivalent of buy, hold or sell, but instead represent recommended relative weightings. Nevertheless, Overweight corresponds most closely with buy, Neutral with hold and Underweight with sell. See Stock Rating definitions below.

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- **Overweight (OW):** Anticipated to outperform relative to the median of the group of stocks covered by the analyst.
- **Neutral (N):** Anticipated to perform in line relative to the median of the group of stocks covered by the analyst.
- **Underweight (UW):** Anticipated to underperform relative to the median of the group of stocks covered by the analyst.

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