Minerva Neurosciences, Inc. (NERV)

Clinical Progress with Financing Enables the Potential for Upside from Additional Pipeline Candidates

MARKET OUTPERFORM | Price: $5.36 | Target Price: $11.00

MARKET DATA

Price	$5.36
52-Week Range:	$4.08 - $10.00
Shares Out. (M):	24.7
Market Cap ($M):	$132.4
Average Daily Vol. (000):	90.0
Cash (M):	$57
Cash/Share:	$2.32
Enterprise Value (M):	$126
LT Debt (M):	$10

Source: Thomson Reuters and JMP Securities LLC

FY DEC		2014A	2015E	2016E
Revenue ($M)	1Q	$0.0	$0.0	--
	2Q	$0.0	$0.0	--
	3Q	$0.0	$0.0	--
	4Q	$0.0	$0.0	--
	FY	**$0.0**	**$0.0**	**$0.0**
EPS	1Q	($0.34)	($0.30)	--
	2Q	($2.55)	($0.31)	--
	3Q	($1.53)	($0.35)	--
	4Q	($0.40)	($0.40)	--
	FY	**($4.81)**	**($1.37)**	**($1.16)**
Previous FY		($4.76)	($1.72)	($1.96)

Source: Company reports and JMP Securities LLC

STOCK PRICE PERFORMANCE

INVESTMENT HIGHLIGHTS

We reiterate our Market Outperform rating and lower our price target on Minerva Neurosciences from $16 to $11 to reflect equity dilution; however, we view the transaction as positive as it enables pipeline advancement, which represents upside potential to our current assumptions. Minerva reported 4Q14 earnings results roughly in line with our and consensus estimates. The company ended 2014 with ~$19M in cash, and subsequently raised an aggregate of ~$39M in debt and equity financings. Management guided that pro forma cash of ~$57M should be sufficient to fund operations through 2016. The company is continuing to make progress with lead development candidate, MIN-101 for the treatment of schizophrenia, with initiation of the Phase 2b trial on track. Additionally, Minerva announced plans to advance clinical development of two pipeline candidates, MIN-117 and MIN-301, enabled by the recent equity financing. Our $11 price target is derived through a sum-of-the-parts NPV analysis of MIN-101 and MIN-202, with pipeline programs MIN-117 and MIN-301 representing upside potential to our valuation.

The MIN-101 Phase 2b trial is on track to begin enrolling patients in the near term. Minerva is continuing to gain regulatory and ethics approvals in Europe in order to initiate the 234 patient Phase 2b schizophrenia trial. Management stated that it expects to begin enrollment in 2Q15, with top line results anticipated in 2Q16. Recall that MIN-101 has previously demonstrated the potential for differentiated benefits on negative symptoms vs. currently available anti-psychotic drugs.

Additional MIN-202 studies are expected to begin in mid-2015, while increased cash resources enable the advancement of pipeline programs. Together with partner Janssen Pharmaceuticals, Minerva expects to initiate a Phase 2a trial in primary insomnia and a Phase 1b trial in patients with major depressive disorder (MDD) with co-morbid insomnia. The company also announced plans to advance pipeline programs that have already demonstrated potential in neuropsychiatric diseases with high unmet medical needs. In 2Q15, Minerva plans to initiate a Phase 2 trial for MIN-117, a novel compound that acts as an antagonist on 5-HT1A and 5-HTT receptors, and both serotonin and dopamine re-uptake. This trial will be conducted in Europe and is designed to enroll 60 patients to evaluate the drug for the treatment of MDD. In addition, the company intends to file an IND in 2016 for MIN-301, a novel candidate for Parkinson's disease that has shown the potential to restore motor function in animal models.

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4Q14 FINANCIAL SUMMARY

Minerva reported a 4Q14 EPS loss of ($0.40) vs. our estimate of ($0.34) and consensus of ($0.46). In-line with our and consensus expectations, the company did not report any revenue in the quarter. Total operating expenses were $7.4M, slightly above our estimate of $7.0M, with lower than expected R&D expenses offset by higher than expected SG&A expenses. R&D expenses were $3.0M compared to our estimate of $4.5M, and SG&A expenses were $4.4M vs. our $2.5M estimate.

We have updated our model to reflect 4Q14 financial results and cash burn guidance, as summarized in Figure 1.

FIGURE 1. 4Q14 Financial Summary

NERV	4Q14			2014 est			2015 est		
	JMP est	Cons	Actual	JMP est	Cons	Actual	JMP old	Cons	JMP new
Revenue	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
R&D	4.5		3.0	44.4		42.9	24.4		23.5
SG&A	2.5		4.4	10.0		12.0	11.0		11.8
Total operating expense	7.0		7.4	54.4		54.9	35.4		35.3
Net income (loss)	**(7.0)**		**(8.1)**	**(55.8)**		**(56.9)**	**(35.5)**		**(35.3)**
Shares outstanding (diluted)	20.3		20.3	13.1		12.7	20.7		25.6
EPS (diluted)	**($0.34)**	**($0.46)**	**($0.40)**	**($4.76)**	**($4.64)**	**($4.81)**	**($1.72)**	**($1.96)**	**($1.37)**

Source: Company reports and JMP Securities LLC

Company Description

Minerva Neurosciences is a clinical-stage biopharmaceutical company, headquartered in Cambridge, MA, focused on the development and commercialization of novel drug candidates to treat patients suffering from CNS diseases. The company has four novel clinical stage candidates with validated mechanisms of action, each having the potential to differentiate in important unmet medical needs. Its lead product candidates are MIN-101, for the treatment of schizophrenia, and MIN-202, which Minerva is co-developing with Jansen Pharma for the treatment of patients suffering from primary and secondary insomnia. In addition, the portfolio includes MIN-117, for the treatment of patients suffering from major depressive disorder, or MDD, and MIN-301, for the treatment of patients suffering from Parkinson's disease. Based on its current capital, the company intends to focus resources on the development of MIN-101 and MIN-202; however, development of pipeline candidates could be accelerated should additional funds, including from non-dilutive sources or partnerships, become available.

Investment Risks

Potential risks to our price target include, but are not limited to, clinical, regulatory, commercial and competitive factors.

Clinical risk. Minerva may not be successful in the full development and launch of its product candidates. There may be enrollment, dosing, efficacy, or safety issues that would preclude development. It is possible that drug candidates may fail to reach endpoints or statistical significance in respective clinical trials. Any of the aforementioned issues would cause a delay, or potential discontinuation of development. If product candidates make it through clinical trials, the company may encounter manufacturing issues including challenges with the scale-up to commercial quantities. All of the above circumstances should be taken into consideration when assessing clinical risk.

Regulatory risk. The company’s drug candidates may not receive approval from the FDA or from ex-U.S. agencies. The FDA may request additional pre-clinical or clinical trials to provide validation for approval that would likely delay approval timelines and increase expenses. If approval is granted, the regulatory agency may impose restrictions on the label, or may require a REMS program for a drug candidate; this could limit commercial uptake and delay commercial progress.

Market risk. The market opportunity for products may not accurately reflect current estimates and there may be challenges with market adoption. This would impact the ability to reach revenue and profitability projections. The company must obtain and protect its intellectual property rights in order to effectively compete in the marketplace. Minerva could get involved in patent lawsuits that would likely be time-consuming and expensive.

Financial risk. Minerva has no commercial products generating revenue, thus, it has not been, and is not yet, profitable. It has incurred losses each year since inception due to research and development expenses. These expenses are expected to increase in the near future as product candidates advance through the pipeline. The company will likely need to raise additional capital to fund these trials and continue operations. If there are any issues with acquiring needed financing, commercializing its product candidates, or achieving sales revenue, the company may not reach profitability.

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JMP Securities currently makes a market in the security of Minerva Neurosciences, Inc.

JMP Securities was manager or co-manager of a public offering of securities for Minerva Neurosciences, Inc. (NERV) in the past 12 months, and received compensation for doing so.

JMP Securities expects to receive OR intends to seek compensation for investment banking services from Minerva Neurosciences, Inc. in the next 3 months.

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Market Outperform (MO): JMP Securities expects the stock price to outperform relevant market indices over the next 12 months.
Market Perform (MP): JMP Securities expects the stock price to perform in line with relevant market indices over the next 12 months.
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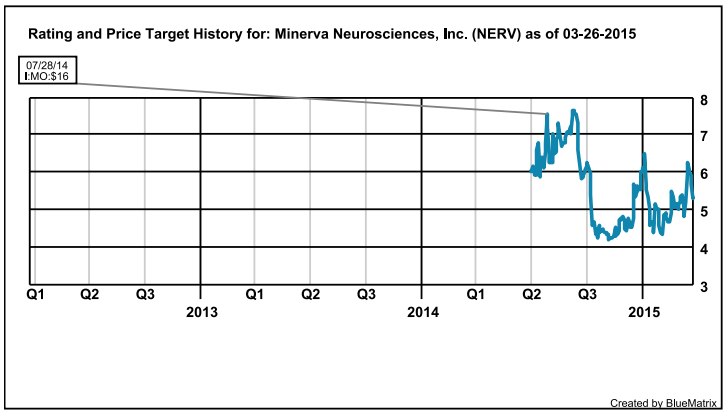
JMP Securities Research Ratings and Investment Banking Services: (as of March 27, 2015)

JMP Rating	Regulatory Equivalent	# Co's Under Coverage	*% of Total*	Regulatory Equivalent	# Co's Under Coverage	*% of Total*	# Co's Receiving IB Services in Past 12 Months	*% of Co's With This Rating*
MARKET OUTPERFORM	Buy	285	*63.62%*	Buy	285	*63.62%*	89	*31.23%*
MARKET PERFORM	Hold	153	*34.15%*	Hold	153	*34.15%*	21	*13.73%*
MARKET UNDERPERFORM	Sell	8	*1.79%*	Sell	8	*1.79%*	0	*0%*
COVERAGE IN TRANSITION		1	*0.22%*		1	*0.22%*	0	*0%*
TOTAL:		448	*100%*		448	*100%*	110	*24.55%*

Stock Price Chart of Rating and Target Price Changes:

Note: First annotation denotes initiation of coverage or 3 years, whichever is shorter. If no target price is listed, then the target price is N/A. In accordance with NASD Rule 2711, the chart(s) below reflect(s) price range and any changes to the rating or price target as of the end of the most recent calendar quarter. The action reflected in this note is not annotated in the stock price chart. Source: JMP Securities.



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