February 17, 2015

WELLS FARGO SECURITIES

Equity Research

Immune Design Corp.

IMDZ: Underappreciated, Differentiated IO Company Worth A Look

Outperform / V

Sector: Biotechnology
Market Weight

Company Note

- **Summary:** We believe IMDZ represents an underappreciated, differentiated immune-oncology (IO) company. After having spent time with the company's management team last week, we are even more convinced that the company's strong science will ultimately translate to benefits in cancer, and though the programs remain early stage, believe initial data this year could begin to provide initial proof of principle for their distinct approach. Though shares have been volatile, we believe IMDZ now trades at a discount to the other small-cap T-cell IO companies such as in the CAR-T/TCR spaces, perhaps because of its slightly earlier stage, greater complexity, and less Street familiarity with its mechanism; however, we believe this discount overlooks the strong scientific underpinnings and preclinical/indirect validation of IMDZ's technology. As such, we believe IMDZ represents an interesting long-term small-cap IO investment and would look to add to positions as a considerably less expensive alternative to more "mainstream" T-cell focused IO companies.

- **Early but progressing IO technology (T-cell amplification) differentiated from CAR-T as well as older dendritic cell targeting methodologies.** IMDZ's core technology involves use of a specialized vector targeted towards delivering a gene encoding a tumor antigen to dendritic cells, inducing production of cytotoxic T-lymphocytes against the tumor; this is boosted with a separately-administered TLR agonist. Though immediate activity may not be as profound as with CAR-T, by inducing the T-cells *in vivo* physiologically rather than *ex vivo*, it can be utilized "off the shelf" rather than requiring a cumbersome removal/manufacturing process, could have less toxicity than an large-quantity infusion of activated T-cells, and could induce greater immune memory--improving durability of cancer effects; it also does not share the IP complexities within the CAR-T space. Though IMDZ's approach might sometimes initially sound like an "*in vivo*" DNDN (or cancer vaccine), we believe this is not the case either, as DNDN (as with Provenge) had exposed dendritic cells to tumor proteins – which ultimately induce a CD4+ T-cell response, whereas IMDZ's transduction of dendritic cells with a gene for a tumor antigen is distinct and stimulates a much more potent anticancer CD8+ T-cell response (the same time of cells involved in CAR-T).

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Valuation Range: $35.00 to $37.00
Our valuation is based on a blend of 30x of probability-adjusted 2025E EPS and 5x of 2025E probability-adjusted sales. Risks include ZVex's failure to show clinical efficacy, a safety signal, competition, and manufacturing.

Investment Thesis:
We believe IMDZ is undervalued based on the promise of ZVex/GLAAS as novel immunotherapy platforms for cancers.

	2013A	2014E		2015E	
EPS		**Curr.**	**Prior**	**Curr.**	**Prior**
Q1 (Mar.)	NE	($0.81) A	NC	NE	
Q2 (June)	NE	(0.60) A	NC	NE	
Q3 (Sep.)	NE	(0.55) A	NC	NE	
Q4 (Dec.)	NE	(0.53)	NC	NE	
FY	($2.28)	($2.44)	NC	($2.07)	NC
CY	($2.28)	($2.44)		($2.07)	
FY P/EPS	NM	NM		NM	
Rev.(MM)	$2	$5		$0	

Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters
NA = Not Available, NC = No Change, NE = No Estimate, NM = Not Meaningful
V = Volatile, = Company is on the Priority Stock List

Ticker	IMDZ
Price (02/13/2015)	$25.34
52-Week Range:	$11-41
Shares Outstanding: (MM)	15.8
Market Cap.: (MM)	$400.4
S&P 500:	2,096.99
Avg. Daily Vol.:	39,458
Dividend/Yield:	$0.00/0.0%
LT Debt: (MM)	$0.0
LT Debt/Total Cap.:	0.0%
ROE:	NM
3-5 Yr. Est. Growth Rate:	5.0%
CY 2015 Est. P/EPS-to-Growth:	NM
Last Reporting Date:	11/12/2014 Before Open

Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters

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Please see page 3 for rating definitions, important disclosures and required analyst certifications
All estimates/forecasts are as of 02/17/15 unless otherwise stated.

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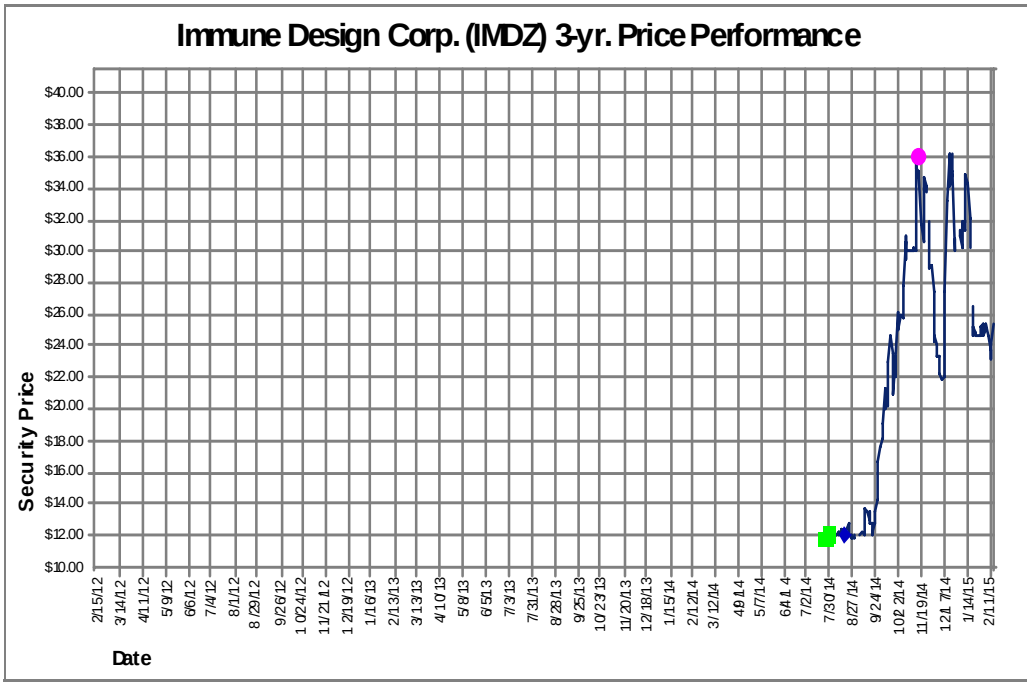
- **Programs continuing to move ahead in phase I, with first glimpse of safety, anti-tumor immune induction, and combo potential now just a few months away.** Dose escalation of LV305, a dendritic cell vector containing the established NYEso1 tumor antigen, has now completed, with data expected at ASCO. Key in our view will be immune results demonstrating whether LV305 can safety induce tumor-specific cytotoxic T lymphocytes (CTLs) as it did in animal models; given the small patient numbers, mechanism, and lack of TLR boosting in this initial study, clinically we would be looking more for signs of tumor stabilization – rather than necessarily the responses observed with TCR in this setting or CAR-T approaches in solid tumors – as promising signals for future benefit. Though patients in the initial LV305 study primarily have synovial sarcoma, given the high prevalence of NYEso1 across many solid tumors, we believe immune upregulation (or clinical activity signals) would bode well for IMDZ's ability to effectively treat a broad range of common, large-market opportunity cancers. Expansion of LV305 into 32 more patients at the highest dose appears to be going well, and key combo data with their GLAAS booster, which has the potential for significantly greater potency based on preclinical data, should initiate enrollment shortly with a potential mid-year read as to whether the highest dose was achieved safely. An add-on study to PD-1 inhibitors in melanoma, testing LV305 + pembro, should provide at its 2H15 readout proof-of-concept for the idea upregulating T-cells could address a common reason for poor response to checkpoint inhibitors, and further mature IMDZ's program.

- **We continue to have high confidence in the IMDZ team's ability to execute in the long term.** In addition to a management team with significant biopharma and immunology/oncology experience, clinicians involved in their studies have immuno-oncology expertise, and the company's scientific advisory board includes numerous renowned scientists (Carl June, David Baltimore, Philip Greenberg) in the field. This give us confidence that even if there are setbacks (e.g., if potency of vector needs to be augmented, different tumor antigens employed, etc.), the team will have the scientific depth to make the appropriate adjustments and effectively move forward.

Company Description:

Immune Design Corporation (IMDZ) is a clinical stage biopharmaceutical company, headquartered in San Francisco, California and Seattle, Washington, developing novel immunotherapies for cancer and infectious diseases. IMDZ is developing an in vivo targeting approach to specifically target key regulatory immune cells called dendritic cells to enable the body's own immune system to fight cancer and other diseases. IMDZ's technology platform consists of two main components, IMDZVex ("ZVex") and GLAAS. ZVex is a virus-based cell targeting vector that specifically delivers tumor (or other immunogen) antigen of interest to DCs such that robust induction of cytotoxic T-cells in effect fights the disease. There are several pipeline products under clinical development: LV305 (ZVex-NY-ESO-1) and G305 (GLAAS-NY-ESO-1) in phase I study for solid tumors, CMB305 (ZVex-NY-ESO-1 plus GLAAS) expected to enter the clinic end-2014, and G100 (GLAAS) in phase I study in Merkel cell carcinoma.

Required Disclosures



	Date	Publication Price ($)	Rating Code	Val. Rng. Low	Val. Rng. High	Close Price ($)
❐	7/24/2014		IPO at $12.00			
	8/18/2014		Abrahams, M.D.			
◆	8/18/2014	12.41	1	17.00	18.00	12.13
●	11/13/2014	30.67	1	35.00	37.00	35.97

Source: Wells Fargo Securities, LLC estimates and Reuters data

Symbol Key

▼	Rating Downgrade	◆	Initiation, Resumption, Drop or Suspend
▲	Rating Upgrade	■	Analyst Change
●	Valuation Range Change	❐	Split Adjustment

Rating Code Key

1	Outperform/Buy	SR	Suspended
2	Market Perform/Hold	NR	Not Rated
3	Underperform/Sell	NE	No Estimate

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IMDZ: Risks include ZVex's failure to show clinical efficacy, a safety signal, competition, and manufacturing.

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V = A stock is defined as volatile if the stock price has fluctuated by +/-20% or greater in at least 8 of the past 24 months or if the analyst expects significant volatility. All IPO stocks are automatically rated volatile within the first 24 months of trading.

As of: February 16, 2015

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