Biotechnology

PBMD - NASDAQ December 30, 2016

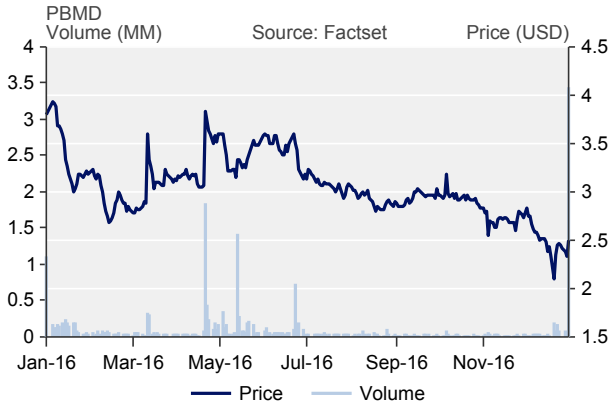
Closing Price 12/29/2016	**$2.50**
Rating:	Buy
12-Month Target Price:	*(prior $16.67)* $7.00
52-Week Range:	$1.70 - $4.23
Market Cap (M):	173
Shares O/S (M):	69.1
Float:	0.0%
Avg. Daily Volume (000):	31
Debt (M):	$0.0
Dividend:	$0.00
Dividend Yield:	0.00%
Risk Profile:	Speculative
Fiscal Year End:	June

Total Expenses ('000)

	2017E	2018E	2019E
H1	6,725	7,061	7,414
H2	7,285	7,650	8,032
FY	14,010	14,711	15,447

Pretax Income ('000)

	2017E	2018E	2019E
H1	(6,725)	2,539	4,586
H2	2,715	2,750	4,968
FY	(4,010)	5,289	9,553



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Prima Biomed Ltd.

Buy

LAG-3 + Keytruda: Safe So Far - Moving to Higher Dose; Adjusting Model for New ADR Ratio and Reducing Price Target

Summary

- **Prima announced that the Data and Safety Monitoring Board (DSMB) has determined that the 1mg dose of IMP321 (soluble LAG-3) combined with Keytruda in the phase I melanoma study (TACTI-mel) is safe and well tolerated. The study has been cleared to continue dose escalation, and will proceed to the next dose level of 6mg.**
- **Patients in the study have unresectable or metastatic melanoma that have poor responses or no responses to Keytruda. IMP-321, as a soluble LAG-3 fragment, drives the immune system to generate anti-tumor immune responses for Keytruda to "take the brakes off." More data, including preliminary efficacy, is expected to be updated throughout 2017. We also expect to continue to see more data for combination approaches from the immune oncology space as a whole in 2017 (see below).**
- **Adjusting for new ADR ratio; reducing price target. Announced on December 18, 2016, and effective as of December 28, 2016, (U.S. EST); the ratio was adjusted to 1 ADS = 100 ordinary shares from 1 ADS = 30 ordinary shares (the new CUSIP is 74154B302). Our 12-month price target is now $7.00, reduced from a post-split target of $16.67 (the pre-split target was $5.00). A combination of adjusted timeliness, expected data points, and risk have resulted in a lower post-split price target.**

Details

Immune oncology is moving to combinations. We continue to see the immune oncology space move towards combination approaches, particularly combinations with Keytruda and Opdivo. **Oncosec Medical (ONCS - $1.23 - Buy)** recently demonstrated positive data in metastatic melanoma patients unlikely to respond to Keytruda monotherapy, by combining it with DNA-based IL-12. Bristol demonstrated positive data combining their LAG-3 (BMS-986016) with Opdivo in a variety of solid tumors. Bristol is also combining **Bavarian Nordic's (BAVA - $35.82 - Buy)** Prostvac (prostate cancer vaccine) with Yervoy, as well combining Bavarian's CV-301 (CEA, MUC-1 vaccine) with Opdivo in lung cancer (announced December 29). Recall that Novartis is conducting a large phase I study (N=240) with Prima's LAG-3, IMP-701, in patients with solid tumors. First movers in CAR-T such as **Kite (KITE - $45.12 - Buy)** and **Juno (JUNO - $18.92 - Buy)** are also conducting combination studies with checkpoints +CARs.

Large indications and the right partners. Novartis has licensed IMP701 for development as a combination therapy with PD1 inhibitors in solid tumors. We believe that the ongoing phase I study (N=240) will expand in its indications, taking a more aggressive timeline to approval (likely by 2020). GSK is evaluating IMP731 in a phase I study in psoriasis (data are expected in 1Q17). Prima will receive single-digit royalties from each partnership. The lead in-house program, IMP321, an antigen-presenting cell (APC) activator that ramps up T-cell production following chemotherapy, already demonstrated POC in breast cancer and is currently in a phase IIb registration study. IMP321 could launch in 2020. A phase I study of an IMP321 combination with Keytruda in melanoma patients is also positive with safety data announced for the 1mg dose. The melanoma study is moving to the 6mg dose, more data in 2017.

Valuation. We assume a royalty stream for each product, initially with IMP321 and IMP701 in 2020 and followed by IMP731 in 2023. Our model has been adjusted for the new ADR ratio of 1 ADS = 100 ordinary shares, from 1 ADS = 30 ordinary shares. We apply a 30% discount to our free-cash-flow, discounted EPS, and sum-of-the-parts models, which are equally weighted. When combined with a risk adjustment

to the therapeutic model as well as assumptions around timeliness, the net effect is that our price target is reduced to $7.00, from a post-split target price of $16.67.

Income Statement ($'000, USD)		July-Dec	Jan-Jun												
Prima Biomed LTD, I: YE June 30	**2015A**	**1H-2016A**	**2H-2016A**	**2016A**	**1H-2017E**	**2H-2017E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Revenue (000's)															
Total Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
License revenue			133	133											
Miscellaneous income	130	286	248	534											
Grant Income	899	675	(0)	674											
Milestones and Royalties:															
IMP321 (Breast cancer)										11,767	28,427	46,857	68,917	87,027	96,059
IMP321 (Melanoma)										-	-	20,951	25,901	33,353	45,814
IMP731 (Psoriasis)						5,000	5,000	10,000	10,000	10,000	10,000	10,000	22,518	35,902	47,798
IMP701 (Solid tumors)						5,000	5,000	10,000	10,000	10,000	10,000	10,000	29,155	37,545	46,415
CVac									5,000	5,000	5,000	8,000	10,000	12,000	15,000
Total Revenues	1,028	961	380	1,341	-	10,000	10,000	20,000	25,000	36,767	53,427	95,808	156,491	205,827	251,085
Expenses															
Cost Of Goods Sold	-														
COGS % Sales															
Research & Development	6,893	3,049	2,317	5,365	3,275	3,548	6,823	7,164	7,522	7,898	8,293	8,708	9,143	9,601	10,081
R&D % Rev's															
General & Administrative Expense	4,407	3,177	2,129	5,307	3,450	3,737	7,187	7,547	7,924	8,321	8,737	9,173	9,632	10,114	10,619
SG&A %															
Depreciation and amortization	1,033	780	735	1,515											
Total Expenses	**12,333**	**7,006**	**5,181**	**12,187**	**6,725**	**7,285**	**14,010**	**14,711**	**15,447**	**16,219**	**17,030**	**17,881**	**18,776**	**19,714**	**20,700**
Oper. Inc. (Loss)	(11,305)	(6,045)	(4,801)	(10,845)	(6,725)	2,715	(4,010)	5,289	9,553	20,548	36,397	77,926	137,715	186,113	230,385
Other income and expenses															
Interest income	169	125		125											
Loss on foreign exhange	(414)	(378)	(51)	(429)											
Finance cost	(14,140)	(6)		(6)											
Changes in fair value of comparability milestone	619	(412)	23	(389)											
Net Change in fair value of financial liability		(212)	(250)	(462)											
Loss on disposal of assets	(4)														
Exchange differences on the tranlation of foreign operations	(43)														
Total other income	(13,767)	(883)	(278)	(1,161)	-	-	-	-	-	-	-	-	-	-	-
Pre-tax income	**(25,071)**	**(6,928)**	**(5,079)**	**(12,006)**	**(6,725)**	**2,715**	**(4,010)**	**5,289**	**9,553**	**20,548**	**36,397**	**77,926**	**137,715**	**186,113**	**230,385**
Pretax Margin															
Taxes (or benefits)												3,896	13,772	27,917	41,469
Tax Rate												5%	10%	15%	18%
GAAP Net Income (loss)	**(25,071)**	**(6,928)**	**(5,079)**	**(12,006)**	**(6,725)**	**2,715**	**(4,010)**	**5,289**	**9,553**	**20,548**	**36,397**	**74,030**	**123,944**	**158,196**	**188,916**
Non GAAP Net Income (loss)	**(25,071)**	**(24,244)**	**(23,838)**	**(48,082)**	**(6,725)**	**2,715**	**(4,010)**	**5,289**	**9,553**	**20,548**	**36,397**	**81,823**	**151,487**	**214,030**	**271,855**
GAAP -EPS	**(0.41)**	**(0.10)**	**(0.07)**	**(0.17)**	**(0.33)**	**0.13**	**(0.19)**	**0.24**	**0.40**	**0.80**	**1.33**	**2.70**	**4.52**	**5.75**	**6.86**
Wgtd Avg Shrs (Bas) - '000s	60,530	68,610	68,721	68,665	20,637	20,658	20,647	22,189	23,735	25,532	27,335	27,390	27,445	27,499	27,554
Wgtd Avg Shrs (Dil) - '000s	60,530	68,610	68,721	68,665	20,637	20,658	20,647	22,189	23,735	25,532	27,335	27,390	27,445	27,499	27,554

Source: Company reports and Maxim

DISCLOSURES

Prima Biomed Ltd. Rating History as of 12/29/2016

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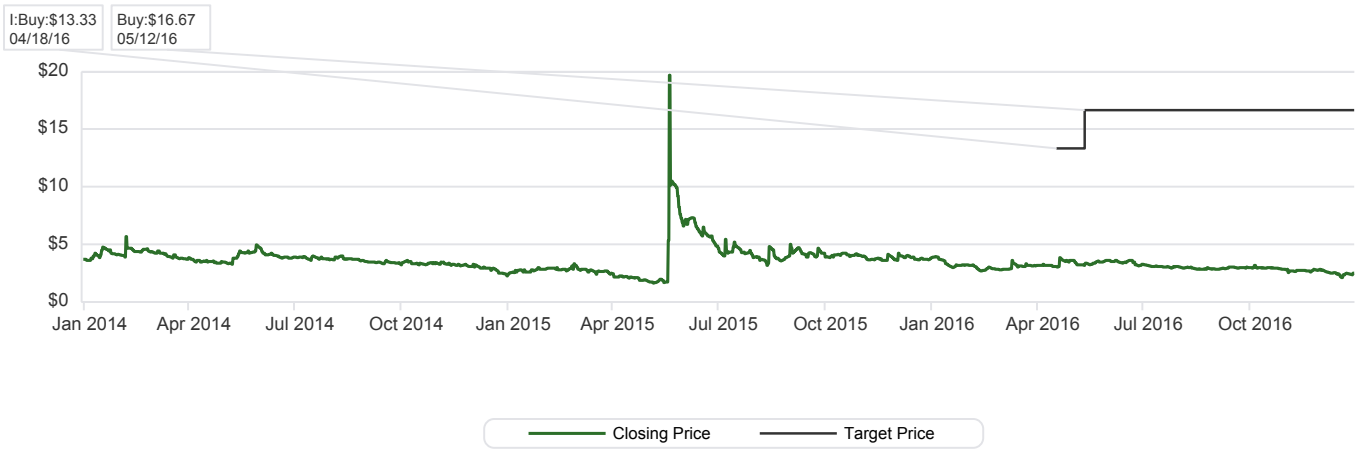

Bavarian Nordic, Inc. Rating History as of 12/29/2016

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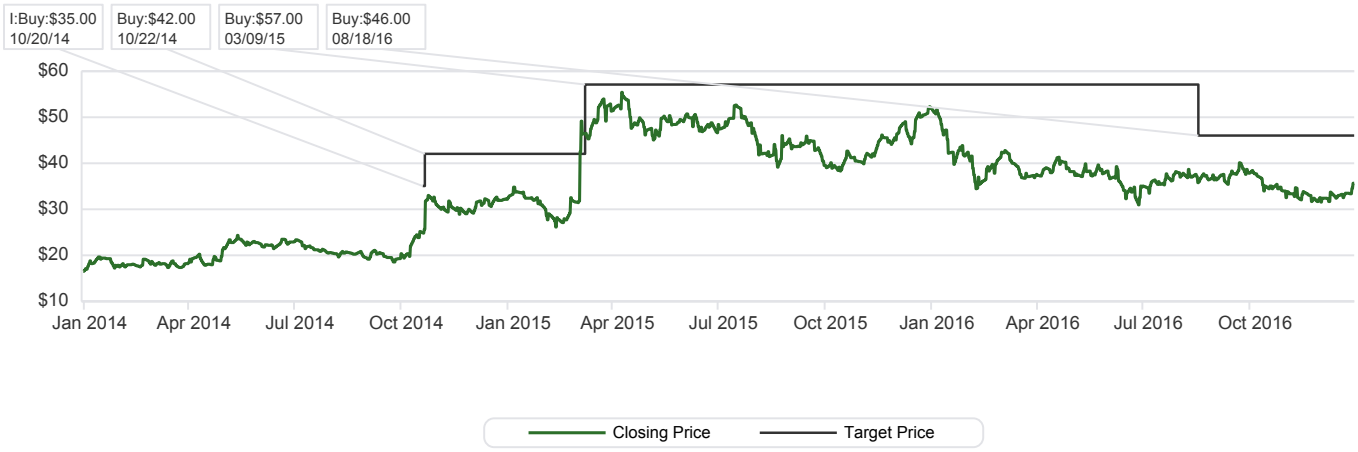

Juno Therapeutics, Inc. Rating History as of 12/29/2016

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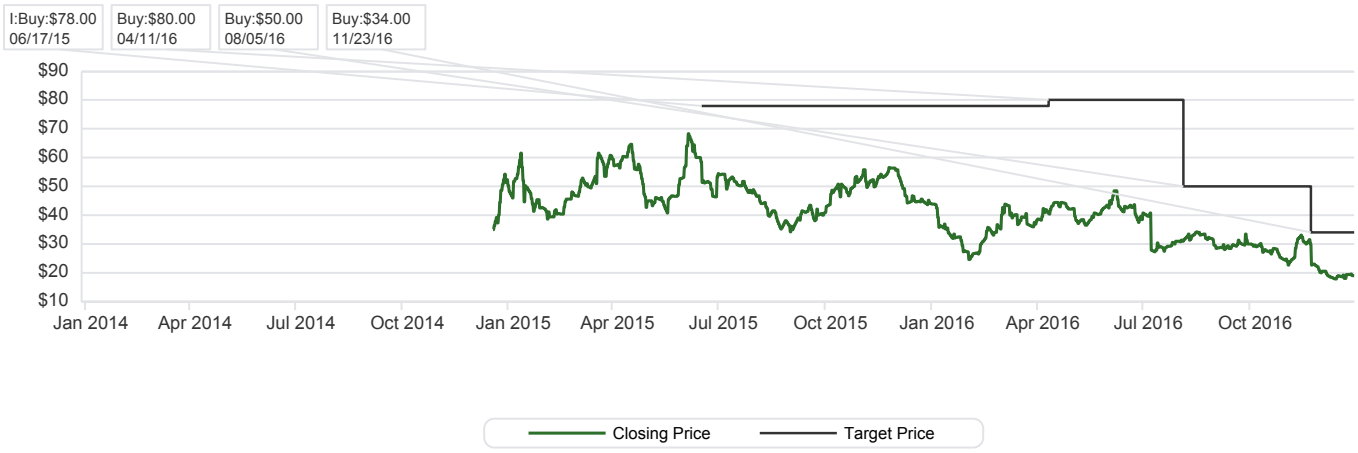

Kite Pharma, Inc. Rating History as of 12/29/2016

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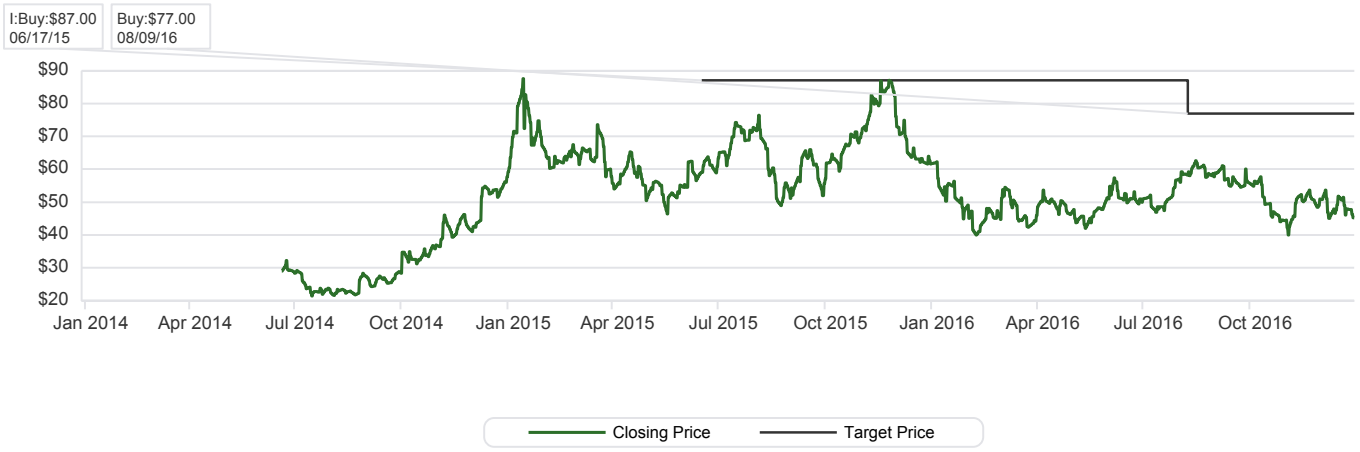

OncoSec Medical Inc Rating History as of 12/29/2016

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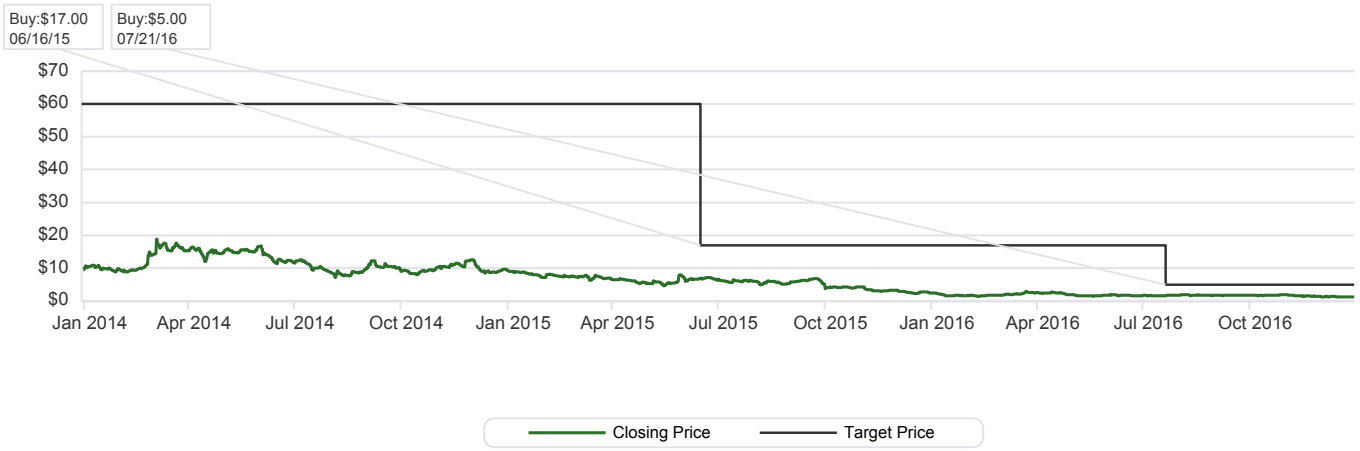

Maxim Group LLC Ratings Distribution		**As of: 12/29/16**	
		% of Coverage Universe with Rating	**% of Rating for which Firm Provided Banking Services in the Last 12 months**
Buy	Fundamental metrics and/or identifiable catalysts exist such that we expect the stock to outperform its relevant index over the next 12 months.	**77%**	**28%**
Hold	Fundamental metrics are currently at, or approaching, industry averages. Therefore, we expect this stock to neither significantly outperform nor underperform its relevant index over the next 12 months.	**21%**	**17%**
Sell	Fundamental metrics and/or identifiable catalysts exist such that we expect the stock to underperform its relevant index over the next 12 months.	**3%**	**0%**
	**See valuation section for company specific relevant indices*		

I, Jason McCarthy, Ph.D., attest that the views expressed in this research report accurately reflect my personal views about the subject security and issuer. Furthermore, no part of my compensation was, is, or will be directly or indirectly related to the specific recommendation or views expressed in this research report.

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The research analyst(s) primarily responsible for the preparation of this research report have received compensation based upon various factors, including the firm's total revenues, a portion of which is generated by investment banking activities.

Maxim Group makes a market in Prima Biomed Ltd., Juno Therapeutics, Inc., Kite Pharma, Inc. and OncoSec Medical Inc

Maxim Group received compensation for investment banking services from OncoSec Medical Inc in the past 12 months.

Maxim Group expects to receive or intends to seek compensation for investment banking services from Prima Biomed Ltd., Bavarian Nordic, Inc. and OncoSec Medical Inc in the next 3 months.

An affiliate of Maxim Group beneficially owns warrants/shares in OncoSec Medical Inc .

PBMD: For Prima Biomed, we use the BTK (Biotechnology Index) as the relevant index.
BAVA: For Bavarian Nordic, we use the BTK index (NYSE Biotechnology Index) as the relevant index.
JUNO: For Juno Therapeutics, we use the BTK (biotechnology index) as the relevant index.
KITE: For Kite, we use the BTK (Biotechnology Index) as the relevant index.
ONCS: For OncoSec Medical Inc., we use the BTK (NYSE Biotechnology Index) as the relevant index.

Valuation Methods

PBMD: Our therapeutic model assumes a royalty structure for each LAG-3 product, initially with IMP701 and IMP321 in 2020 and followed by IMP731 in 2023. Our models assume risk adjustments for each product based on the stage(s) of development. Our therapeutic models assume a risk adjustment. We then apply a 30% discount to our free-cash-flow, discounted EPS, and sum-of-the-parts models, which are equally weighted to derive a price target.
BAVA: We value Bavarian Nordic based on the continued IMVAMUNE/IMVANEX contract procurement and success of PROSTVAC in the prostate cancer space. We use a high discount rate in our FCFF, EPS, and SOP models, which are equally weighted and averaged to arrive at our price target.
JUNO: We expect approvals of JCAR015 (2018) and JCAR017 (2018) in ALL and NHL, respectively. We believe these products/indications are valued in the stock today. However, The CAR-T and TCR pipeline adds significant upside beyond the current valuation. We use a discount rate of 15% in our free-cash-flow, discounted-EPS, and sum-of-the-parts models, and weigh each metric equally to arrive at our price target.
KITE: We believe KTE-C19 could launch in 2017 for B-cell cancers. Additional TCR and CAR candidates add upside. We use a discount rate of 15% for our valuation metrics based on the likelihood of accelerated approval(s) in no-option, salvage cancers. Free-cash-flow, discounted-EPS, and sum-of-the-parts models are equally weighted and averaged to derive our price target.
ONCS: We provide detailed models for the opportunity in melanoma, merkle cell, and breast cancer. Our current assumption is for commercialization beginning in 2022. Using these metrics, we model the market potential and discount back using a 30% rate in our FCF, discounted-EPS, and sum-of-the-parts models, which are equally weighted and averaged to arrive at our price target; these metrics are dependent on our clinical assumptions.

Price Target and Investment Risks

PBMD: Aside from general market and other economic risks, risks particular to our price target and rating for Prima Biomed include: (1) Development—To date, LAG-3 checkpoint modulators have not been approved; (2) Regulatory—The company's ongoing and future studies may not be sufficient to gain approval; (3) Commercial—The company lacks commercial infrastructure to support a launch if approved; (4) Financial—The company is not yet profitable and may need to raise additional capital to fund operations.
BAVA: Aside from general market and other economic risks, risks particular to our price target and rating for Bavarian Nordic include: the clinical efficacy of its products; management of the clinical trial process; the manufacturing of products; the competitive landscape; the decisions of regulatory bodies, such as the European Union and FDA; and the reimbursement environment. It is also important to recognize that small-cap and micro-cap biotechnology stocks can be very volatile.
JUNO: Aside from general market and other economic risks, risks particular to our price target and rating for Juno Therapeutics include: (1) regulatory—there are currently no approved CAR-T therapies as safety of therapy has become a concern in ongoing studies, so pathways to approval may have more rigorous requirements; (2) competitive—the CAR-T space has become highly competitive, with several companies targeting the same indication with similar products; (3) development—clinical data that was positive in smaller trials may not be repeated in larger trials; and (4) commercial—CAR-T therapies are expensive to produce, and Juno lacks commercial infrastructure. Additionally, side effects in early products, notably cytokine release syndrome, may limit product utility to small groups of patients.

KITE: Aside from general market and other economic risks, risks particular to our price target and rating for Kite Pharma include: (1) developmental risk—Kite products are currently in the early stages of clinical development and may not be successful; (2) regulatory risk—Kite's products are subject to regulation by the FDA and may not produce sufficient data for product approvals; (3) commercial risk—the company, while building commercial infrastructure now, may not be able to support a commercial product launch; and (4) financial risk—Kite Pharma is not a profitable entity and may need to raise additional capital.
ONCS: Aside from general market and other economic risks, risks particular to our price target and rating for OncoSec Medical include: (1) clinical data (will it work?); (2) the execution of the clinical trial; (3) regulatory interactions; and (4) the ability to raise capital and commercialize products.

RISK RATINGS

Risk ratings take into account both fundamental criteria and price volatility.

Speculative – Fundamental Criteria: This is a risk rating assigned to early-stage companies with minimal to no revenues, lack of earnings, balance sheet concerns, and/or a short operating history. Accordingly, fundamental risk is expected to be significantly above the industry. Price Volatility: Because of the inherent fundamental criteria of the companies falling within this risk category, the price volatility is expected to be significant with the possibility that the investment could eventually be worthless. Speculative stocks may not be suitable for a significant class of individual investors.

High – Fundamental Criteria: This is a risk rating assigned to companies having below-average revenue and earnings visibility, negative cash flow, and low market cap or public float. Accordingly, fundamental risk is expected to be above the industry. Price Volatility: The price volatility of companies falling within this category is expected to be above the industry. High-risk stocks may not be suitable for a significant class of individual investors.

Medium – Fundamental Criteria: This is a risk rating assigned to companies that may have average revenue and earnings visibility, positive cash flow, and is fairly liquid. Accordingly, both price volatility and fundamental risk are expected to approximate the industry average.

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ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST

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