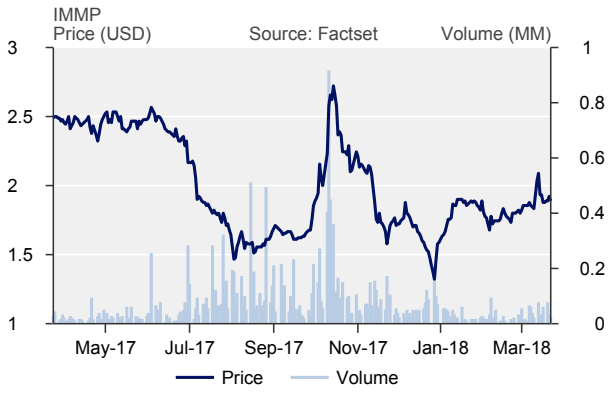
Biotechnology

**IMMP** - NASDAQ March 22, 2018

| | |
|---|---|
| **Closing Price 03/21/2018** | **$1.88** |
| Rating: | Buy |
| 12-Month Target Price: | $5.00 |
| 52-Week Range: | $1.25 - $2.85 |
| Market Cap (M): | 51 |
| Shares O/S (M): | 27.3 |
| Float: | 0.0% |
| Avg. Daily Volume (000): | 44 |
| Debt (M): | $0.0 |
| Dividend: | $0.00 |
| Dividend Yield: | 0.00% |
| Risk Profile: | Speculative |
| Fiscal Year End: | June |

**Total Expenses ('000)**

| | 2017A | 2018E | 2019E |
|---|---|---|---|
| H1 | 3,716 | 7,440A | 6,864 |
| H2 | 6,917 | 6,877 | 7,436 |
| FY | 10,633 | 14,317 | 14,300 |




# Immutep Limited

**Buy**

## IMP321 (LAG-3Ig) + Keytruda in Melanoma - Expansion Cohort Initiates Dosing

### Summary


- **Immutep announced that the expansion cohort in the P1 trial of IMP321 + Keytruda in unresectable or metastatic melanoma has initiated dosing.**
- **Recall in the first three cohorts, this combination, which is a combination of two checkpoints, has demonstrated reduction in tumors in 7/12 (58%) patients so far. More data is expected in 2018. The patients in the expansion cohort will be treated for 12 months, thus we expect that data in 1H19.**
- **In addition to the study in melanoma, Immutep's P2b study of IMP321 + chemotherapy in metastatic breast cancer is ongoing and a P2 study (TACTI-002, N=120) in combination with Keytruda in solid tumors (lung, head & neck, ovarian) is expected to initiate in 2H18. We also expect updates for partnered LAG-3 antibodies IMP701 (solid tumors, with Novartis) and IMP731 (autoimmune disease, with GlaxoSmithKline) in 2018 (timing not disclosed). Combined, Immutep has several data points (catalysts) ahead in 2018 that should, if positive, drive a higher valuation.**
- **Conclusion: Immutep continues to advance its LAG-3 pipeline forward, particularly in combination therapies. For diseases like melanoma and other cancers, checkpoint monotherapy has been successful, but only in a minority of patients, leaving the larger market yet to be unlocked. In our view, LAG-3 is likely to be the next checkpoint to emerge to be paired with the PD1s/PD-L1s and Immutep may have the deepest LAG-3 pipeline in the space.**


### Details

**IMP321 is Immutep's lead LAG-3 candidate**, and it is in development as an immune adjuvant or immune stimulator. IMP321 is a soluble dimeric recombinant form of LAG-3Ig, a fusion protein used to increase the immune response to tumors by stimulating dendritic cells through high affinity binding to MHC class II molecules on the dendritic cell surface. LAG-3 is one of two proteins shown to be able to properly condition dendritic cells (and monocytes) to undergo maturation and step up the stimulation of antigen targeting T-cells (the other is CD40 ligand). What's important to note is that both LAG-3 and CD40 can do this without inflammation. IMP321 was developed by Dr. Frédéric Triebel in the late 1990s as a dendritic-cell activator. When used at low doses, it can be used as a T-cell adjuvant for cancer vaccines. At higher doses, IMP321 can be combined with cancer chemotherapy to ramp up the immune response by driving dendritic cells and monocytes to increase tumor antigen presentation.

**Large indications and the right partners.** Novartis (NVS - NR) has licensed IMP701 for development as a combination therapy with PD1 inhibitors in solid tumors. The ongoing clinical study in multiple cancer types has (as of January 2018) expanded to enroll another 99 patients, now N=515. Novartis will also initiate another N=160 program in hematological and solid cancer in combination with its PD1 inhibitor PDR001. GlaxoSmithKline (GSK - NR) is evaluating IMP731 in a phase I study in psoriasis with that trial expected to complete in March 2018. Immutep 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 so far and demonstrated tumor reductions in 58% of patients and in collaboration with Merck, a phase II trial in multiple solid tumors is expected to commence in 2H18.

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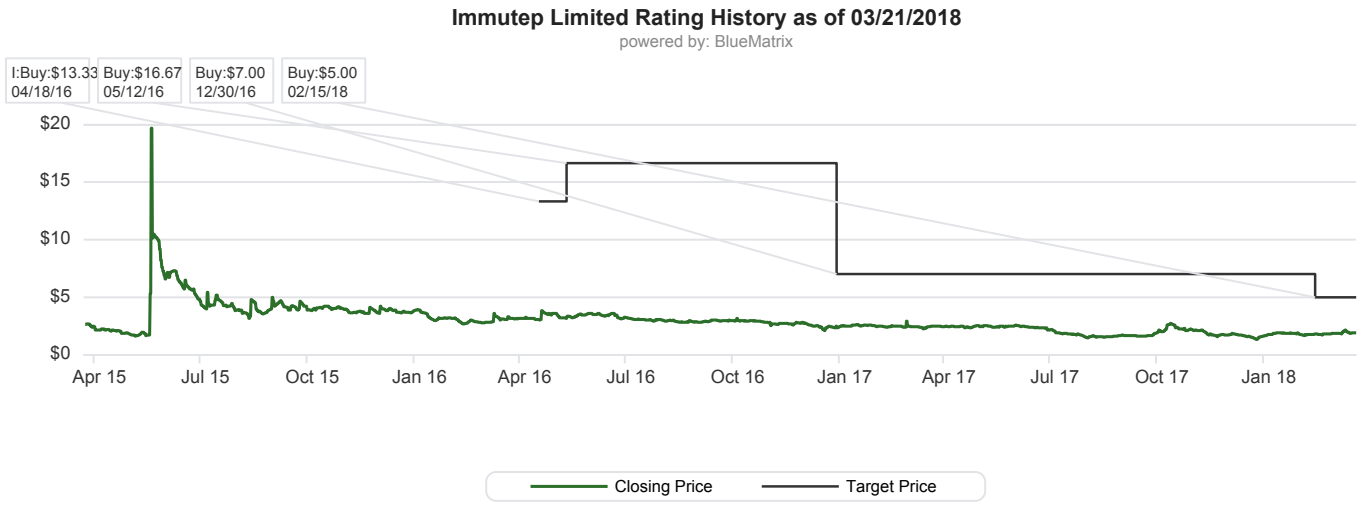
## DISCLOSURES




| Maxim Group LLC Ratings Distribution | | As of: 03/21/18 | |
|---|---|---|---|
| | | % 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. | **80%** | **37%** |
| **Hold** | Fundamental metrics are currently at, or approaching, industry averages. Therefore, we expect this stock to neither outperform nor underperform its relevant index over the next 12 months. | **17%** | **13%** |
| **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.

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 Immutep Limited**

**Maxim Group managed/co-managed/acted as placement agent for an offering of the securities for Immutep Limited in the past 12 months.**

**Maxim Group received compensation for investment banking services from Immutep Limited in the past 12 months.**

**Maxim Group expects to receive or intends to seek compensation for investment banking services from Immutep Limited in the next 3 months.**

**IMMP:** For Prima Biomed, we use the BTK (Biotechnology Index) as the relevant index.

### Valuation Methods

**IMMP:** Our therapeutic model assumes a royalty structure for each LAG-3 product, initially with IMP701 and IMP731 in 2020 and followed by IMP321 in 2023 (breast cancer). 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.

### Price Target and Investment Risks

**IMMP:** 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; (5) Collaborative—The company has ongoing collaborations with large pharmaceutical companies who could back out of the partnerships, setting back development on product lines and increasing costs; (6) High volatility of the company's stock price.

## 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.

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

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