

Biotechnology

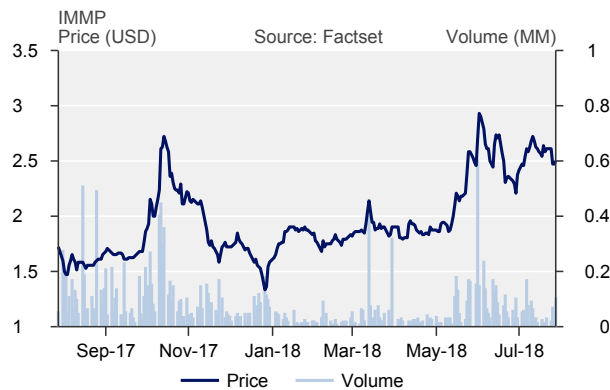
IMMP - NASDAQ

July 27, 2018

Closing Price 07/26/2018	\$2.50
Rating:	Buy
12-Month Target Price:	\$7.00
52-Week Range:	\$1.25 - \$3.06
Market Cap (M):	76
Shares O/S (M):	30.3
Float:	100.0%
Avg. Daily Volume (000):	85
Debt (M):	\$6.2
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

Update on the LAG-3 Landscape; Immutep's Partners are Busy

Summary

- On GlaxoSmithKline's (GSK - NR) 2Q18 earnings call held on July 25, Immutep's LAG-3 partnered asset GSK2831781 (GSK'789), a humanized version of IMP731, was highlighted in the slides. We view this as a positive for Immutep and continued demonstration of the emergence of the LAG-3 class of checkpoints.
- The appearance of GSK'789 in the earnings slide deck suggests to us that the agent has taken priority among the broad swath of agents in GSK's pipeline.
- According to the update, although GSK'789 is being evaluated in an ongoing Phase 1b study in psoriasis, it appears that ulcerative colitis (UC) is the next indication. GSK presented positive preclinical data in its 2Q slides and proof-of-concept data (we assume a P2 study) is expected in 2020.
- Recall, GSK and Novartis (NVS - NR) have both licensed LAG-3-targeting antibodies from Immutep: IMP731 (LAG-3 checkpoint in autoimmune diseases) and IMP701 (LAG-3 checkpoint in oncology), respectively.
- Conclusion: The LAG-3 space continues to evolve and we are watching IMMP's pharma partners Novartis and GSK for emerging data which should bode well for IMMP shares. Merck's interest in LAG-3 is also intriguing, recall the company partnered with IMMP to evaluate Keytruda with IMP321 (soluble LAG-3 fragment/fusion).

Details

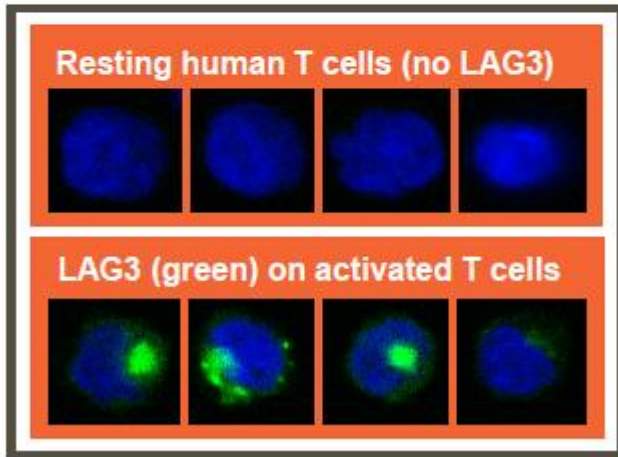
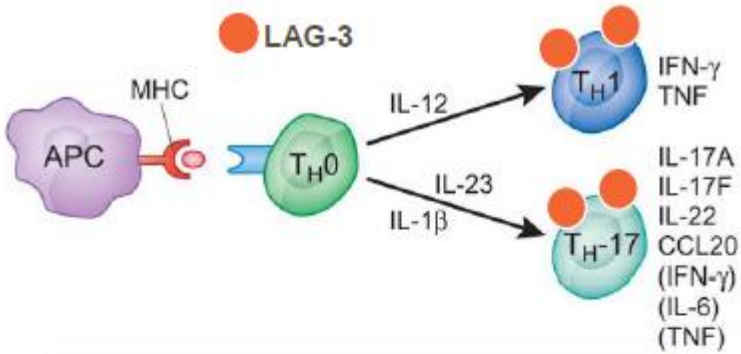
Approved UC biologics. Ulcerative colitis (UC) is a disease that affects the colon or large intestine. Among the treatment options for UC is a new class of agents called biologics. There are four biologics that are FDA-approved for treating UC, which target TNF-alpha (Humira, Simponi, Remicade, and Entyvio). In contrast, GSK'781 addresses the cause of the disease by depleting the few activated auto-aggressive T cells, unlike anti-TNF monoclonal antibodies (or corticosteroids, also used to treat UC) that treat the symptoms of the disease like inflammation. Thus, GSK'781 represents the next wave of treatments in the field of autoimmune diseases.

LAG-3 heating up in oncology. Bristol-Myers Squibb (BMY - NR) with LAG-3 checkpoint (relatlimab) has 9 trials across multiple cancer types, including combination therapy with the company's PD1 checkpoint Opdivo. Merck (MRK - NR) has also entered the LAG-3 arena with its own anti-LAG-3 antibody (MK-4280) in combination with Keytruda in both hematological and solid malignancies. Novartis partnered with Immutep and presented data at ASCO, showing early signals of activity (see note). Even so, Immutep has a deep pipeline of LAG-3 assets. Its lead agent, IMP321 (eftilagimod) is currently in a Phase 2 study in combination with Keytruda in lung and head and neck cancers.

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Exhibit 1. GSK2831781 (GSK'871): targeting the inflammatory cascade through depletion of recently activated LAG-3+ T cells. Lymphocyte Activate Gene-3 (LAG-3) is a marker of early T-cell activation. LAG-3 is predominantly expressed on newly activated CD4+ and CD8+ T-cells, and is a negative regulator of T-cell response. GSK'871 is a humanized monoclonal antibody that targets the T-cell activation marker LAG-3 that is expressed in inflamed tissues. GSK'871 is a humanized and afucosylated (to enhance antibody-dependent cell-mediated cytotoxicity) version of the anti-LAG-3 antibodies that were in-licensed from Immutep in 2010.

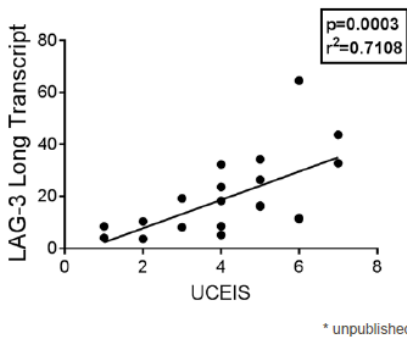


GSK in house data, after CD28 bead stimulation

Source: GSK Company Reports.

Exhibit 2. Experimental studies support UC as lead indication. Dose dependent depletion of LAG-3 positive cells were observed in a Phase 1b study (first time in human). GSK'871 works to treat autoimmune disease by targeting LAG-3+ activated T cells that are known to accumulate at the diseased organ site and destroying them; thus, depleting them from the body.

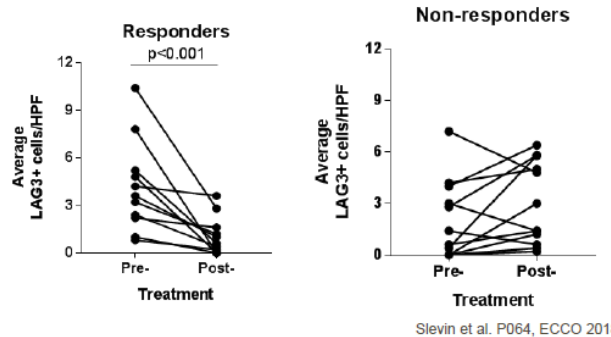
Gut transcript levels correlate with endoscopic index of disease activity*



* unpublished

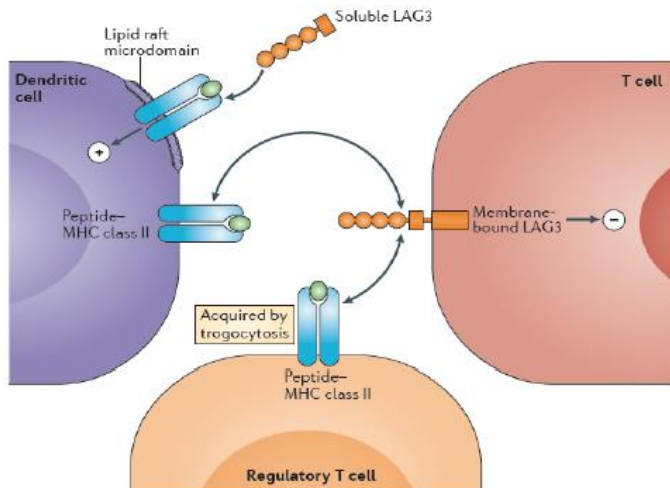
Source: GSK Company Reports.

LAG3+ cell numbers (IHC) reduce in responders but not non responders to established biologics



Slevin et al. P064, ECCO 2018

Exhibit 3. The multifunctional roles of LAG-3. LAG-3 has a multifunctional role in the immune system. LAG-3's target ligand is MHC Class II-peptide molecules on the surfaces of CD8 cells, Tregs, and dendritic cells. A soluble form of LAG-3 targets MHC class II on dendritic cells and activates them to stimulate more T-cells. Membrane-bound LAG-3 on CD8 T-cells is an inhibitor of T-cell function. On Tregs (not shown), LAG-3 is upregulated, which contributes to effector T-cells assuming a state of energy and exhaustion. Immutep LAG-3-targeting biologics target the different roles of LAG-3. Lead product IMP321 is a soluble LAG-3 that stimulates dendritic cells, while IMP701 (Novartis) targets membrane-bound LAG-3 to take the brakes off of CD8 T-cells, and GSK'781 (GSK) targets LAG-3 expressing T-cells (a marker of activation) for depletion.



Source: Nguyen LT and Ohashi PS. *Nat Rev Immunol.*2015;15(1):45-56.

DISCLOSURES

Immutep Limited Rating History as of 07/26/2018

powered by: BlueMatrix



Maxim Group LLC Ratings Distribution		As of: 07/26/18	
		% 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.	82%	34%
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.	16%	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.	2%	33%

**See valuation section for company specific relevant indices*

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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 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 Immutep, 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 Immutep 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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