IMUGENE
Developing Cancer Immunotherapies

AN EMERGING LEADER IN CANCER IMMUNO-ONCOLOGY

Investor Presentation

March 2019

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Executive summary

1. Innovative immuno-oncology approach Pages 8-9	• Imugene is developing a range of novel B cell vaccine therapies to activate the immune system of patients to eradicate tumours • Vision to transform and improve the treatment of cancer patients
2. Addressing a significant market with unmet needs Pages 11-14	• Currently targeting the gastric and lung cancer market with the potential to extend beyond these indications in the future • Immuno-oncology sector has intense interest from big pharma with several large licensing, asset and corporate transactions
3. Multiple products in clinical stage Pages 15-23	• Advanced clinical pipeline with multiple drug candidates • Currently have 2 therapies (HER-Vaxx and B-Vaxx) in Phase 2 studies with a pipeline of other therapies and combinations undergoing earlier stage development • Promising clinical trial results achieved to date
4. Fully funded with several near term catalysts Page 24-26	• A number of key clinical and preclinical catalysts are expected in FY19 • Focus on continuing to build awareness for the product through acceptance of abstracts and presentations at key industry conferences such as AACR.

Key investment highlights

Strong preliminary results from ongoing clinical trials	• Promising Phase 1 clinical trial results across lead candidate B cell vaccines • Phase 2 trials open and recruiting patients
Robust pipeline of B-cell vaccines targeting high potential areas	• Robust pipeline of novel B-cell vaccines targeting large therapeutic areas • Immuno-oncology treatments are at the forefront of cancer innovation with the leading drugs[1] generating over US$23bn in 2018
Fully funded to progress clinical program	• Company currently fully funded in supporting all clinical research programs • Register comprised of supportive and long-term institutional holders
Best in class leadership team with a track record in drug development	• Experienced board and management team with successful track record developing, licensing and commercialising early stage drugs • Strategic direction led by a board with highly relevant expertise
Active market with numerous commercialisation and M&A opportunities in the sector	• The immuno-oncology sector has attracted intense interest from big pharma as highlighted from recent M&A and licensing deals

Notes:
1. The subset Herceptin,Perjeta, Opdivo and Keytruda

Lead by an experienced management team which have significant clinical development commercialisation expertise in the sector

Leslie Chong
SYDNEY, AU

Managing Director & CEO

- 20+ years of oncology experience across Phase I – III clinical development programs
- Ex Senior Clinical Program Lead at Genentech, one of the world's most successful biotech businesses which sold the best selling breast cancer drug Herceptin
- Also worked at global majors GSK and Exelixis

Paul Hopper
SYDNEY, AU

Executive Chairman

- Founder of Imugene
- Extensive international & ASX biotech capital markets experience particularly in immuno-oncology & vaccines
- Former Chairman of Viralytics, Founder & Director of Prescient

Dr Axel Hoos
PHILADELPHIA, USA

Non-Executive Director

- Senior Vice President and Head of Oncology at GSK
- Former Medical Lead for Yervoy, the first immuno-oncology treatment to improve first survival
- Chairman of the BoD of the Sabin Vaccine Institute
- Co-Chair of the Cancer Immunotherapy Consortium Think-Tank

Mr Charles Walker
BRISBANE, AU

Non-Executive Director

- Experienced listed biotech CEO and CFO (ASX:ACL and ASX:IMU)
- Extensive financial markets experience having executed 50+ cross border transactions
- Clinical experience includes managing pipeline of drugs in all stages form discovery, through to Phase III to launched products

Dr Mark Marino
CALIFORNIA, USA

Chief Medical Officer

- 28+ years of experience in drug development
- Former CMO of Cytori, Head of Clinical Pharmacology at Eisai and Roche, Head of R&D at Mannkind and VP Clinical Development at Daiichi

Dr Nick Ede
MELBOURNE, AU

Chief Technology Officer

- 25+ years peptide vaccine and drug development
- Former CEO Adistem and CEO of Mimotopes
- VP Chemistry Chiron (now Novartis), Research Fellow CRC Vaccine Technology

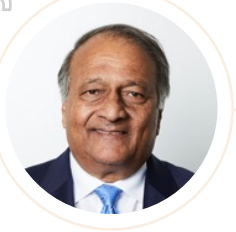
Dr Anthony Good
SYDNEY, AU

Vice President of Clinical Research

- 20+ years experience in global clinical development
- Integral to the development of significant new medicines including Viagra, Revatio, Lipitor, and Somavert
- Ex Pfizer Global Research and Development, Ex Covance Clinical Services

Imugene has a team with oncology drug development experience

Imugene's Scientific Advisory Board consists of world leading oncologist, researchers and developers



Prof Pravin Kaumaya
OHIO STATE UNIVERSITY, USA

- Prof of Medicine Department of Obstetric Gynecology at Ohio State University
- Research focus in tumour immunology, mechanisms of tumour cell-immune cell interactions, and immune mechanisms
- Research focus on fields of vaccine with emphasis on peptide vaccines for cancer

Dr. Michael Galigiuri
CITY OF HOPE, USA

- President of City of Hope National Medical Center and holds the Deana and Steve Campbell Physician-in-Chief.
- Elected President of the American Association for Cancer Research (AACR) in 2017

Prof. Josep Tabernero
VALL D'HEBRON, BARCELONA, SPAIN

- President of European Society for Medical Oncology (ESMO)
- President of the Medical Oncology Department at the Vall d'Hebron
- Director of the Vall d"Hebron Institute of Oncology (VHIO)

Prof Tanios Bekail Saab
MAYO CLINIC, USA

- Professor of College of Medicine and Science
- Program Co-Leader, GI Cancer, Mayo Clinic Cancer Center
- Medical Director, Cancer Clinical Research Office (CCRO)
- Senior Associate Consultant, Mayo Clinic AZ

Prof Peter Schmid
BARTS CANCER INSTITUTE, QUEEN MARY UNIVERSITY OF LONDON

- Medical Oncologist
- Expertise in breast and lung cancer, cancer immunotherapy and early drug development
- Leads the Centre of Experimental Medicine at Barts Cancer Institute

Prof. Ursula Wiedermann-Schmidt
MEDICAL UNIVERSITY OF VIENNA, AUSTRIA

- Co-inventor of HER-Vaxx
- Professor of Vaccinology at Medical University of Vienna

Dr Neil Segal
MEMORIAL SLOAN KETTERING CANCER CENTER, USA

- Medical Oncologist
- Expertise in GI, Colon, Pancreatic cancers
- Active clinical immuno-oncology researcher
- Clinical lead in several trials using PD-L1 inhibitors

Dr Yelina Janjigian
MEMORIAL SLOAN KETTERING CANCER CENTER, USA

- Medical Oncologist
- Expertise in esophageal and stomach (gastric) cancer
- Active in GI clinical trials testing combinations of Her-2 and checkpoint inhibitor therapies

Imugene has a world renowned advisory board of scientist and oncologist

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Addressing a significant market with unmet needs

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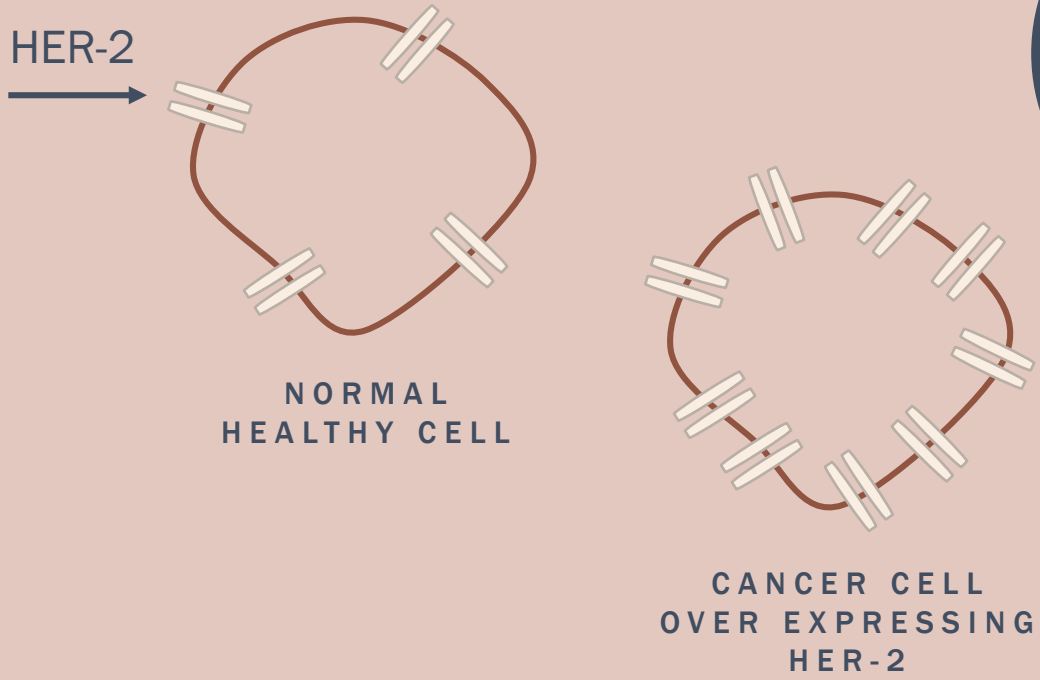
Multiple products in clinical stage

4

Fully funded with several near term catalysts

What problem is Imugene trying to solve with HER-Vaxx?

- HER-2 (Human Epidermal Growth Factor Receptor) stimulates cancer cells to grow
- 10 - 30% of gastric, breast, ovarian and pancreatic cancer patients have tested HER-2 positive
- The incidence of increased HER-2 (known as over expression) in the body is associated with a higher chance of cancer spreading and an increased probability of cancer recurrence



HER-2 is a clinically and commercially validated target for cancer treatment

Imugene's products have the potential to improve upon commercialised HER-2 treatments such as Herceptain and Perjeta

How does HER-Vaxx work?

3 Peptides “mimic” the epitope (antibody binding site)

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The immuno-oncology market is experiencing robust growth

Immuno-oncology is a key treatment

Immunotherapy is cutting edge technology

The use of immunotherapy is fast becoming a physician preferred treatment over traditional treatments that have not changed remarkably since the 1950‘s

Rapid global market share growth

In 2015 the immuno-oncology market was estimated at US$45Bn and is expected to reach US$117Bn by 2022

Active commercialisation in the sector

Strong deal activity involving big pharma with a number of M&A and licensing transactions (eg. Viralytics & Immune Design)

Strong sales for leading immuno-oncology treatments

KEYTRUDA (pembrolizumab) Injection 100 mg	US$7.2bn in 2018 sales
OPDIVO (nivolumab) INJECTION FOR INTRAVENOUS USE 10 mg/mL	US$6.7bn in 2018 sales
Herceptin trastuzumab	US$7.1bn in 2018 sales
PERJETA pertuzumab	US$2.8bn in 2018 sales

Expected to continue strong growth into the future as they become the standard of care for cancer treatment

A significant market opportunity across key Imugene vaccines

		GASTRIC CANCER (HER-VAXX)	LUNG CANCER (KEY- VAXX)
Incidence	**Newly diagnosed cases**	1m cases per year - globally 19% relate to HER2+ cancers	1.8m cases globally, per year
Prognosis	**5 year relative survival rate**	< 25%	~18%
	Median survival	7-10 months	1.6m deaths annually worldwide
Existing treatment costs	Herceptin trastuzumab	US$140,000 a year	n.a
	KEYTRUDA (pembrolizumab)	n.a	US$150,00 a year
	OPDIVO (nivolumab)	n.a	US$157,000 a year

Sources: Scientific journals, press releases and internal company findings

Cancer Immunotherapy is an active market attracting big pharma interest

Big-pharma are reaping the rewards of their immunotherapy cancer treatments

COMPANY	PRODUCT
MERCK	**Keytruda** US$7bn in sales in 2018
Bristol-Myers Squibb	**Opdivo & Yervoy** US$10bn sales in 2018
AstraZeneca	**Imfinzi** US$2bn sales in 2018
Roche	**Tecentriq** US$3bn sales in 2018

Sources: Company filings; press releases

Selected partnerships with immunotherapy companies

	TARGET	CONSIDERATION	DATE	TECHNOLOGY
MERCK Acquired	Viralytics	A$500m	Jun 2018	Oncolytic immunotherapy
Roche License	Adaptive biotechnologies	US$2Bn	Jan 2019	Clinical Immunotherapy
Lilly Acquired	CUREVAC the RNA people	US$1.8Bn	Oct 2017	Cancer Vaccine
MERCK Acquired	IMMUNE DESIGN	US$300m	Feb 2019	Cancer Vaccine
MERCK Investment	moderna	US$125m	May 2018	Cancer Vaccine

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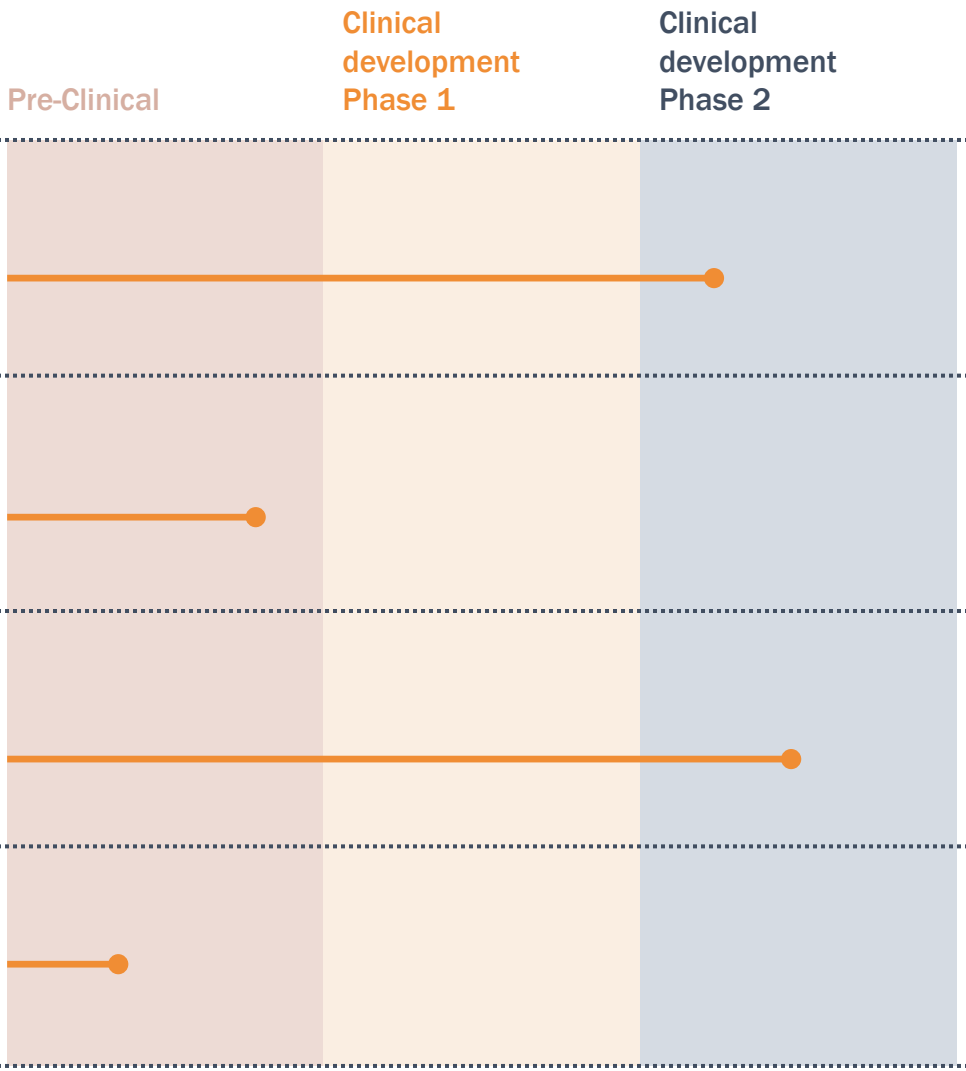
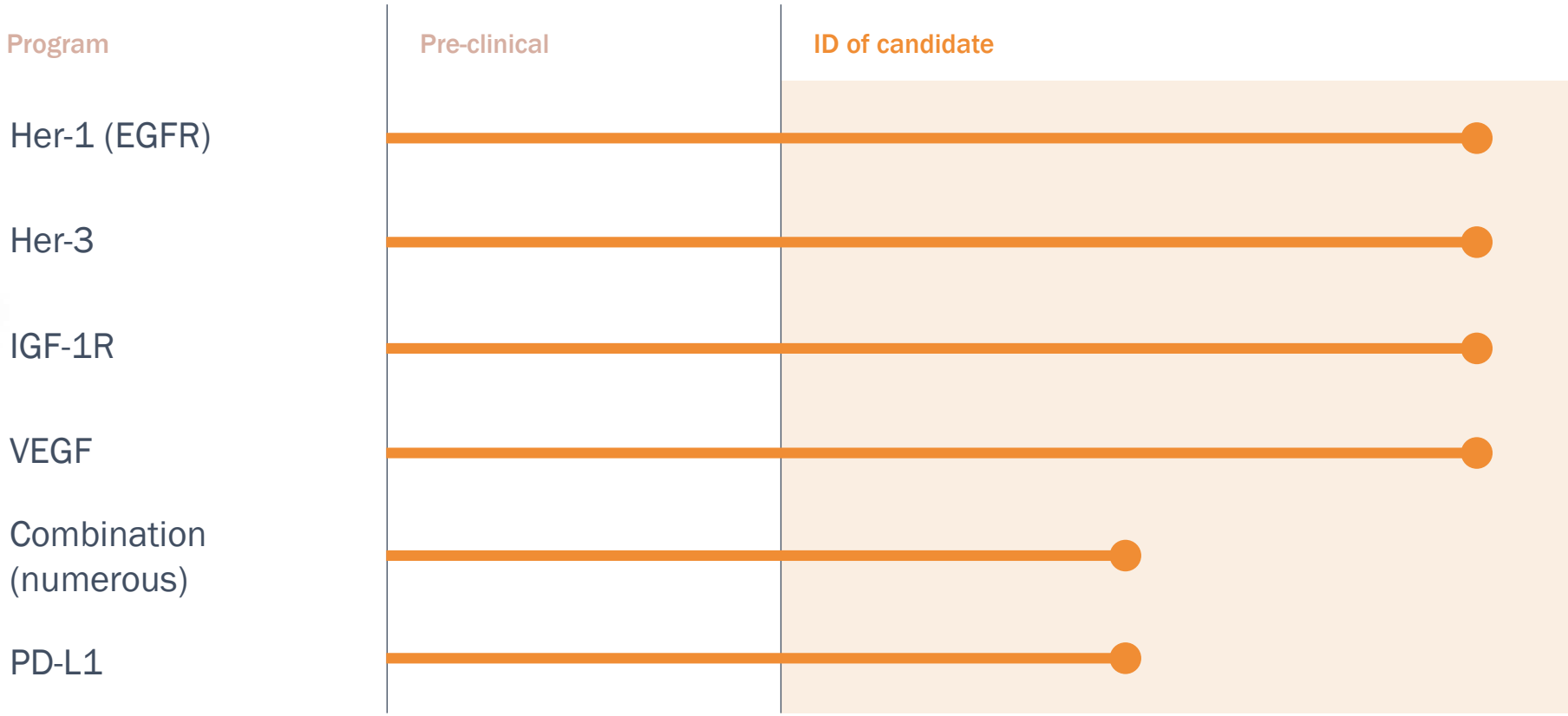
Imugene has a developing pipeline of cancer vaccines



	Key Data / Results
HER-Vaxx (HER-2)	• **Successful completion** of Phase 1b trials • Strong trial results with **no safety or toxicity issues** • All patients had **increased antibody response** • **11/14** evaluable patients with encouraging clinical responses
KEY-Vaxx (PD-1)	• KEY-Vaxx has shown encouraging response in preclinical studies • **Strong inhibition of tumour growth** in mouse models of colorectal cancer (outperformed industry standard mouse PD-1 mAb) • Signs of increased tumour growth inhibition when co-administered with B-Vaxx
B-Vaxx (HER-2)	• **Positive Phase 1 results** and now currently in phase 2 • B-Vaxx is **fully funded** by OSU grant • **14/24** evaluable late stage patients with encouraging clinical response
HER-2 & PD-1 Vaccine Combination	• Pre-clinical studies showed **90% cancer growth inhibition** in colorectal cancer model with the combination • **Potentially solves the industry problem** of additive toxicity of combined checkpoint inhibitors if safety of vaccines maintained in combination

IMUGENE PIPELINE

Discovery Pipeline



HER-Vaxx: Successfully completed Phase 1B study...

Phase 1b – Complete

Trial

- Phase 1b
- Open label

Patients

- Gastric Cancer
- Up to 18 patients in 3 cohorts (10, 30 and 50 µg)

Study

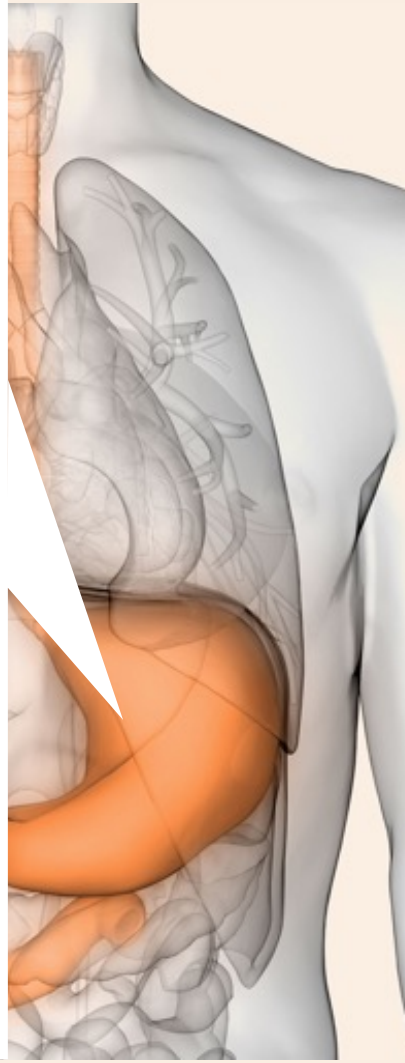
HER-Vaxx in combination with chemo: Cisplatin and 5FU or capecitabine

Endpoints

- Recommended Phase 2 Dose of HER-Vaxx
- Safety and Toxicity
- Immunogenicity (anti-HER-2 antibody titres)

Study Results

- 50 µg selected as the RP2D
- No safety or toxicity issues
- All patients had increased antibody response
- Best Response Rates
  - 1 Complete Response
  - 5 Partial Response
  - 4 Stable Disease



...and commenced Phase 2

Phase 2 commenced - First patient dosed March 2019

Trial

- Phase 2
- Open label
- Asia
- Eastern Europe
- India

Patients

- Gastric Cancer
- Up to 70 patients

Study

Randomized
HER-Vaxx in combination with standard of care chemotherapy

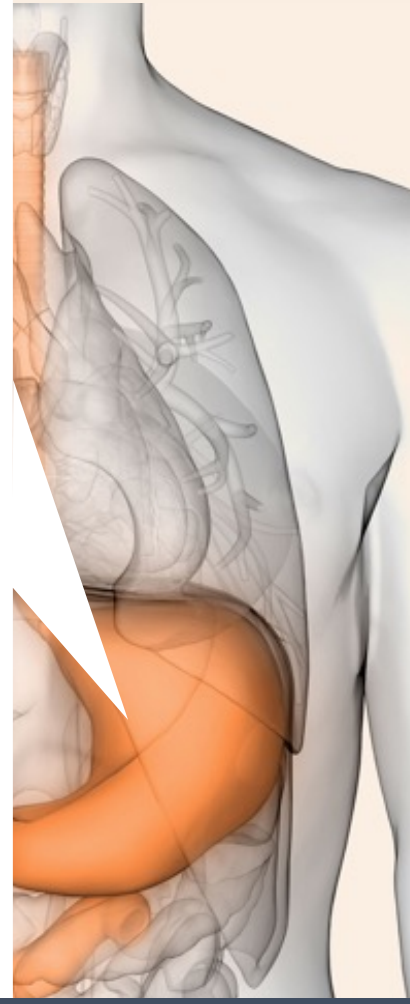
Or
Standard of care chemo: Cisplatin and 5FU or capecitabine or oxaliplatin

Primary Endpoints

- Overall survival
- Progression-free survival

Secondary Endpoints

- Safety and Tolerability
- Immune response



Phase 2 designed to provide definitive data

KEY-Vaxx: A new entrant in the checkpoint inhibitor market

How PD-1 targeted treatments work

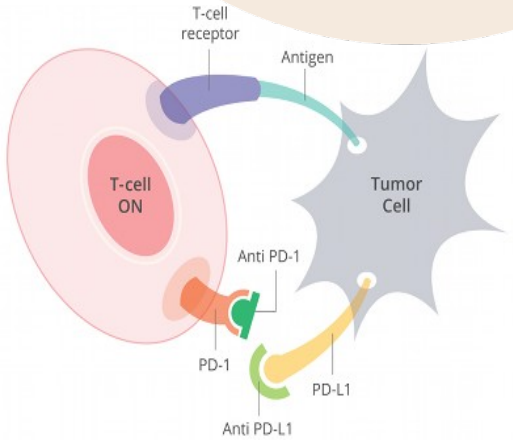
PD-1 targeted treatments block PD-L1 expressing tumour cells from binding PD-1 on T-cells (resulting in increased activation of the T cell immune response in the tumour microenvironment)

Limitations of current treatments

- Current checkpoint inhibiting monoclonal antibody therapies only effective in 10-30% of patients
- Require intravenous infusions every 2-3 weeks and has a high toxicity profile when used in combination
- Very expensive

KEY-Vaxx potentially addresses these problems

KEY-Vaxx is a PD-1 B-cell vaccine, **aimed to induce the body to produce polyclonal antibodies** while existing commercialised immunotherapies **Keytruda® (Merck) and Opdivo® (BMS)** are monoclonal antibodies



Current phase:
Phase 1 (commence in Q4 2019)

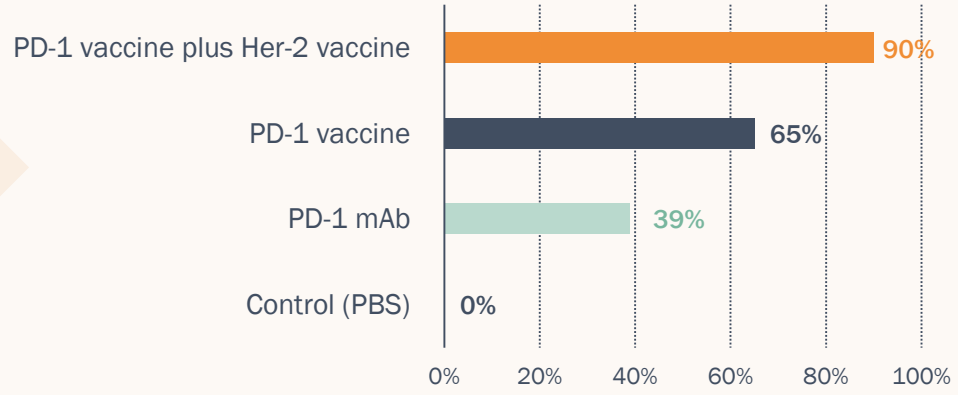
Next key milestones
GLP tox results
Drug manufacture
FDA IND
Dsing first patient in

PD-1/HER-2 Combination: Potential to increase response rates in HER-2+ cancers

Immuno-oncology combinations driving value

- Combining drugs for **better immuno-oncology outcome** is driving value creation
- Big Pharma are looking for **novel combinations** that
  - ✓ Combine without increasing toxicity
  - ✓ Combine with minimal cost increase
  - ✓ Combine for better response rates and efficacy

% CANCER GROWTH INHIBITION IN COLORECTAL CANCER MODEL



Inhibition of cancer growth 16 days after infusion of cancer cells

Imugene's novel therapies have the potential to tick all three boxes

Opdivo / Yervoy Case Study

In 2018, the FDA approved the Opdivo and Yervoy combination for a subset of patients with metastatic colorectal cancer

Provides a novel therapeutic option with a higher response rate than that from monotherapy immunotherapy;

BUT more significant toxicity is noted with the combination, and immune-mediated side effects need to be monitored

Although early in development, Imugene's PD-1 and Her-2 cancer vaccines potentially provide efficacy and response rate with minimal toxicity

KEY-Vaxx: Vaccine in Phase 1 development path

Current status

PRE-CLINICAL MILSTONES

- PD-1 candidate vaccine identified
- CMC manufacturing
- Formal pre-clinical Pre-clinical FDA de-briefing meeting
- Finalise regulatory IND submissions
- FDA/IND granted
- 2019: Commence Phase 1

PROPOSED INPATIENT PHASES

Phase 1 – Dose Seeking /Signal Finding

- COHORT 3 | 3-6 PATIENTS
- COHORT 2 | 3-6 PATIENTS
- COHORT 1 | 3-6 PATIENTS

IDENTIFY

Optimal Biological Dose (OBD)

OUTCOMES

- ✓ Safety
- ✓ Immunogenicity
- ✓ Tumor PD

Phase 2 – Expansions Assumption

Expansions

- Indication Expansion (12-20 patients)
- Indication Expansion (12-20 patients)

Proof of Concept

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Multiple products in clinical stage

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Fully funded with several near term catalysts

Robust cash position with supportive institutional shareholder base

Public Market Overview

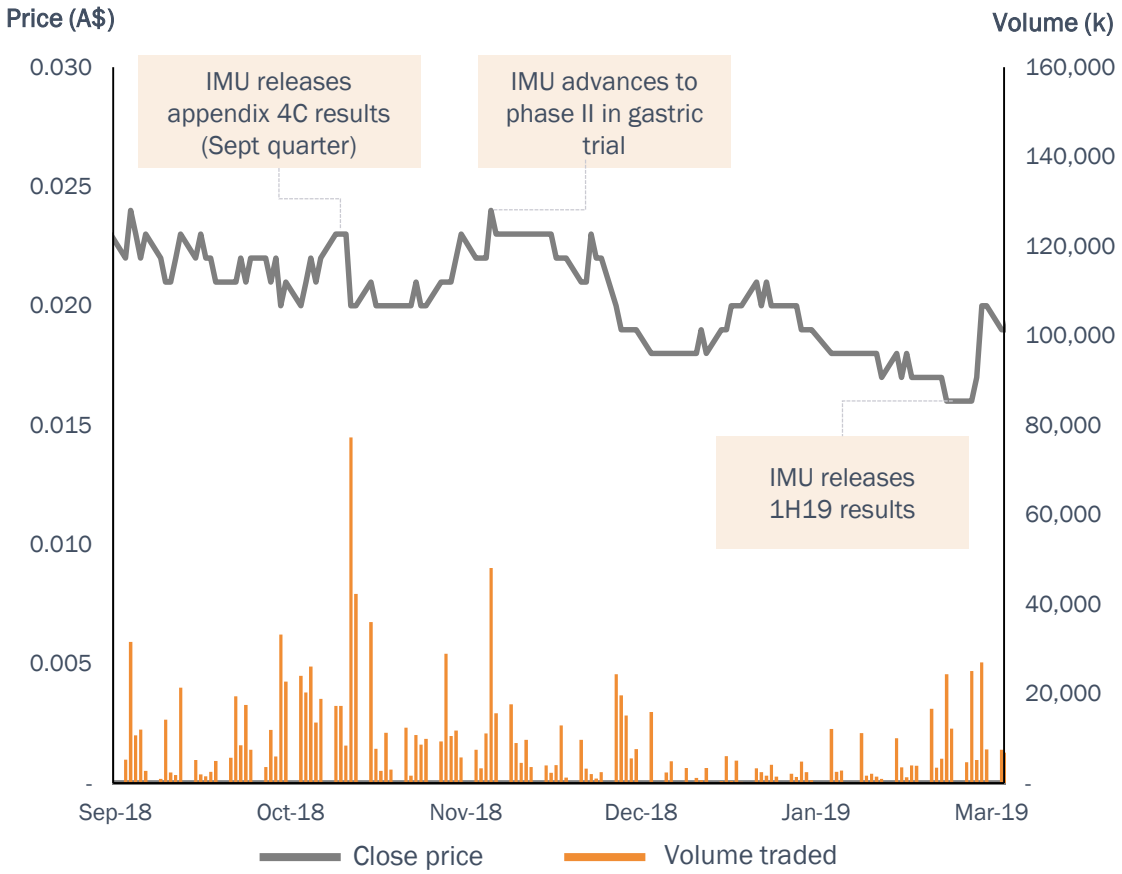
Share Price [1]	A$0.02
Market Capitalisation [2]	A$72.2M
Cash equivalents (Dec-18)	A$24.1M
Enterprise Value	A$48.1M

Top 5 Shareholders (as at January 2019)

Private Portfolio Management	6.2%
HSBC Custody Nominees (Australia)	3.9%
Dr. Nicholas Smith	2.8%
Paul Hopper	2.1%
Sarah Cameron	1.7%

Note:
1. As of March 2019
2. Market capitalization calculations based on ordinary shares (3.6Bn) only and excludes the dilutive impact of options outstanding (625m)

Share Price Performance (last 6 months)



Clinical development and milestones

Phase 2 clinical trials for key indications underway – trials underpinned by additional value-adding studies and an exciting pipeline

STUDIES	1Q CY2019	2Q CY2019	3Q CY2019	4Q CY2019
HER-Vaxx HER-2	**HER-Vaxx** 1st patient dosed in Phase 2	**HER-Vaxx Phase 2** Regular updates expected		
KEY-Vaxx PD-1	**KEY-Vaxx Phase 1** Preclinical tox and manufacturing nearing completion with FDA IND in Q3			**Key- Vaxx** Commence Phase 1
B-Vaxx HER-2	**B-Vaxx** Phase 1 clinical data published with further updates expected			
Combo HER-2/PD-1	**Combo pre-clinical** Preclinical studies ongoing demonstrating benefits of combining IMU B-cell vaccines in validated animal models of cancer			

With a proactive approach to business development and brand awareness through participation in key conferences and acceptance in peer reviewed journals

AACR American Association for Cancer Research

ASCO AMERICAN SOCIETY OF CLINICAL ONCOLOGY

Gastrointestinal Cancers Symposium

IMUGENE
Developing Cancer Immunotherapies

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