IMUGENE
Developing Cancer Immunotherapies

ASX: IMU

IMUGENE

Wholesale Investor
Emergence February 2020

DISCLAIMER

1. The information in this presentation does not constitute personal investment advice. The presentation is not intended to be comprehensive or provide all information required by investors to make an informed decision on any investment in **Imugene Limited (Company).**
In preparing this presentation, the Company did not take into account the investment objectives, financial situation and particular needs of any particular investor.

2. Further advice should be obtained from a professional investment adviser before taking any action on any information dealt with in the presentation. Those acting upon any information without advice do so entirely at their own risk.

3. Whilst this presentation is based on information from sources which are considered reliable, no representation or warranty, express or implied, is made or given by or on behalf of the Company, any of its directors, or any other person about the accuracy, completeness or fairness of the information or opinions contained in this presentation. No responsibility or liability is accepted by any of them for that information or those opinions or for any errors, omissions, misstatements (negligent or otherwise) or for any communication written or otherwise, contained or referred to in this presentation.

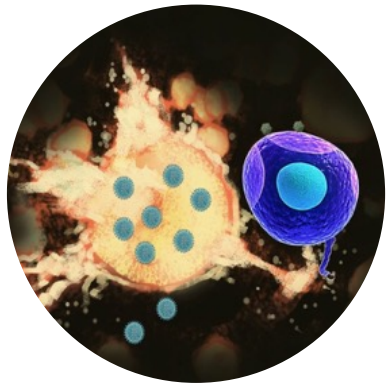
4. Neither the Company nor any of its directors, officers, employees, advisers, associated persons or subsidiaries are liable for any direct, indirect or consequential loss or damage suffered by any person as a result of relying upon any statement in this presentation or any document supplied with this presentation, or by any future communications in connection with those documents and all of those losses and damages are expressly disclaimed.

5. Any opinions expressed reflect the Company's position at the date of this presentation and are subject to change

6. International offer restrictions - This document does not constitute an offer to sell, or a solicitation of an offer to buy, securities in the United States or any other jurisdiction in which it would be unlawful. In particular, the New Shares have not been, and will not be, registered under the US Securities Act of 1933 and may not be offered or sold in the United States except in transactions exempt from, or not subject to, the registration requirements of the US Securities Act and applicable US state securities laws. The distribution of this presentation in jurisdictions outside Australia may be restricted by law and any such restrictions should be observed.

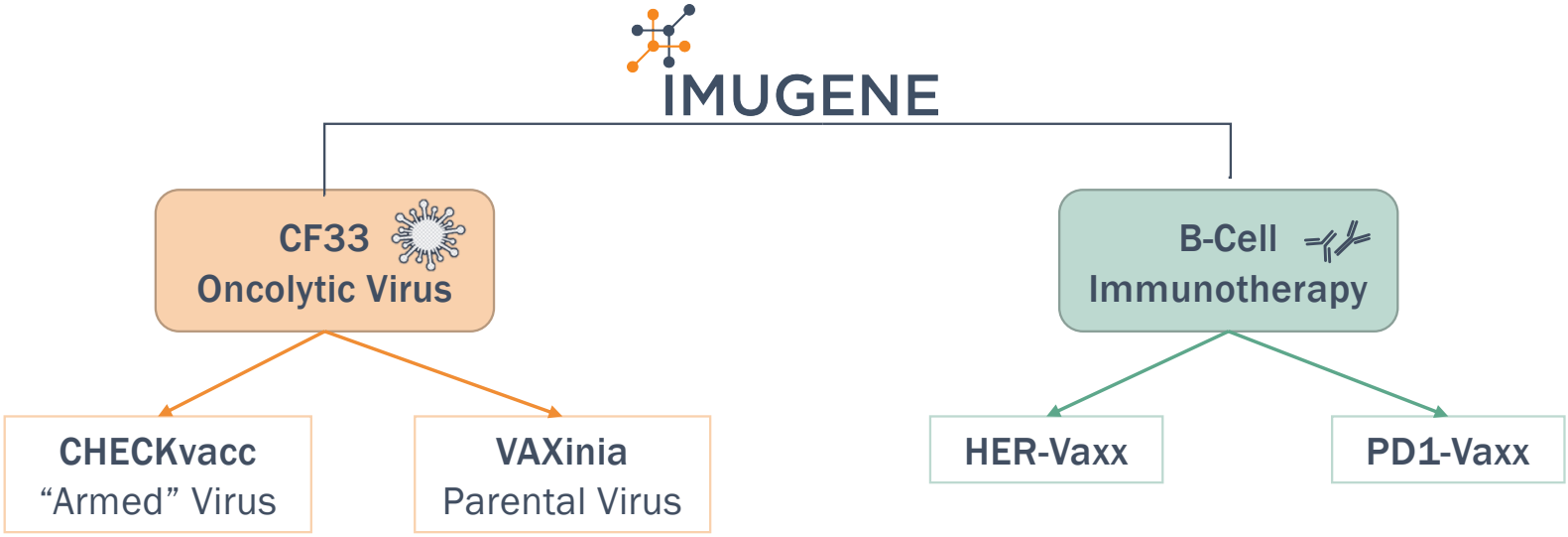
INVESTMENT HIGHLIGHTS

- Two novel technologies: CF33 oncolytic virus and B-Cell immunotherapy
- CF33 recently acquired from City of Hope Cancer Centre in Los Angeles
- CF33 poised to enter two Phase 1 clinical trials in 2020
- CF33 has demonstrated single agent & combination activity
- Prolific and compelling pre-clinical data
- CF33 GMP manufacturing complete for both trials
- Highly experienced CF33 management including ex-Viralytics clinical development team
- B-Cell technology currently recruiting Phase 2 trial in gastric cancer & initiate Phase 1 for PD1-Vaxx 1H, 2020
- Robust, long life IP portfolio over both technologies
- Significant news flow with multiple near & medium term valuation inflections



TWO NOVEL TECHNOLOGY PLATFORMS

IMUGENE
Developing Cancer Immunotherapies



CHECKvacc
CF33+hNIS+aPD-L1
Triple Negative Breast Cancer
Phase 1
City of Hope
2H, 2020

VAXinia
CF33+hNIS
Advanced Solid Tumors
Phase 1 / 2
Multi Centre
2H, 2020

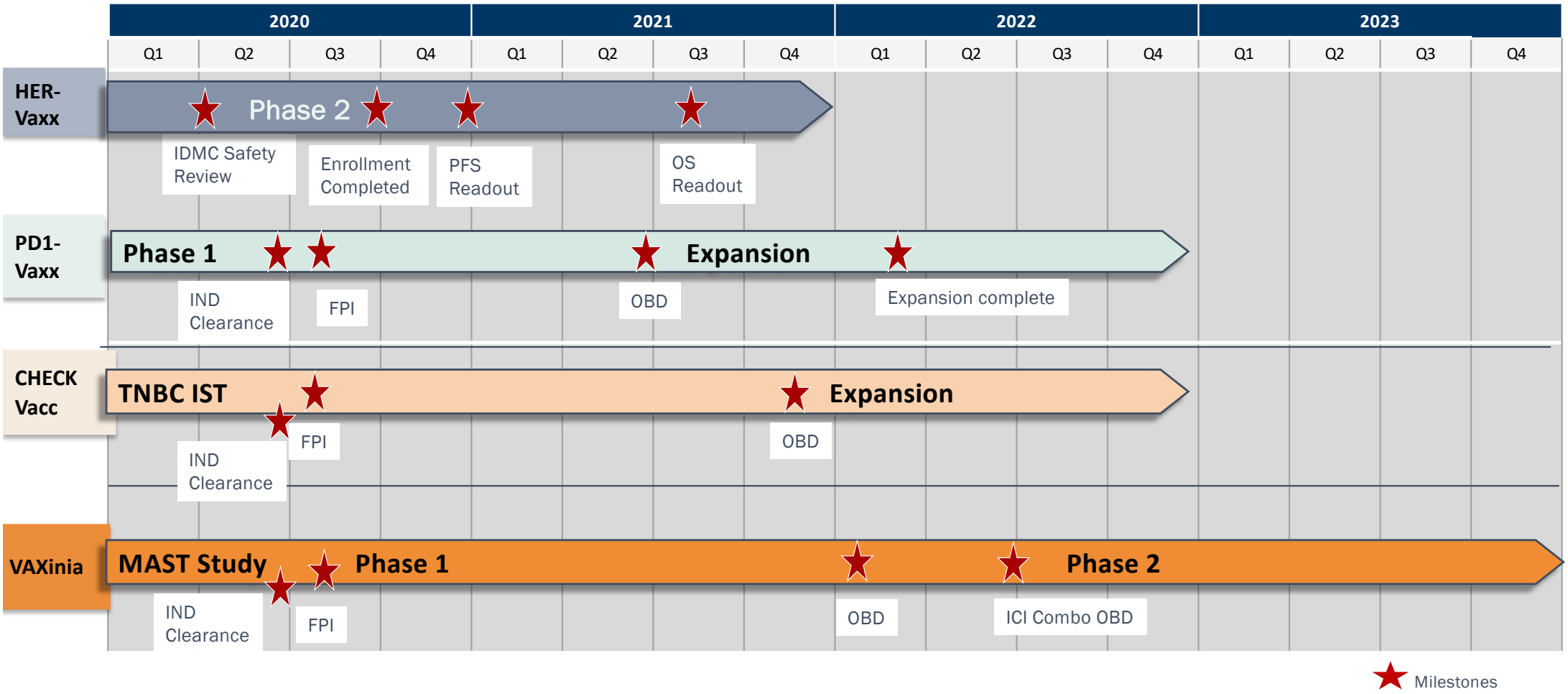
HER-Vaxx

Gastric Cancer
Phase 2
Multi Centre
Recruiting

PD1-Vaxx

Lung Cancer
Phase 1
Multi Centre
1H 2020

IMUGENE'S ESTIMATED TIMELINE



International Leadership Team with Extensive Commercialization Expertise in the Sector

Leslie Chong
SYDNEY, AU

Managing Director & CEO

- 21+ 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
- Former Chairman of Viralytics
- Founder & Director of Prescient
- Chairman of SUDA Pharmaceutical
- Extensive international & ASX biotech capital markets experience particularly in immuno-oncology & vaccines

Dr Jens Eckstein
CAMBRIDGE, USA

Non-Executive Director

- Managing Partner of Apollo Ventures
- Former president of SR One Ltd., the VC arm of GSK
- 15+ years in VC experience funding early to clinical stage biopharmaceutical companies
- Extensive experience as chairman, board director and founder of several biotechnology and venture capital companies.
- Creator of OneStart, the world's largest life science accelerator

Dr Lesley Russell
PHILADELPHIA, USA

Non-Executive Director

- 25+ years of senior international operational and leadership experience having worked at Amgen, Eli Lilly, Teva, and Cephalon
- Extensive knowledge and experience with new drug development

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 survival in melanoma
- Chairman 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 from discovery, through to Phase III to product launch

Imugene has a team with oncology drug development experience

Experienced Management Team with Significant Clinical Development Expertise

Dr Mark Marino
SAN DIEGO, 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 Anthony Good
SYDNEY, AU
VP of Clinical Research

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

Dr Seymour Fein
NEW YORK, USA
Medical Director

- 30+ years of drug development experience across numerous therapeutic areas with 20 FDA drug approvals
- Managing partner of CNF Pharma, LLC
- Co-founder and CMO of Serenity Pharmaceuticals, LLC
- Co-founder of ChiRhoClin, Inc.

Lisa Guttman
TORONTO, CAN
Director of Clinical Operations

- 30+ years experience of pharmaceutical and biotechnology industry experience across a wide variety of therapeutic areas & functions
- Founder/owner of Practical Clinical
- Ex VP Global Clinical Operations at Abraxis BioScience (now Celgene), Ex Director North American Development Operations at Amgen

Dr Nick Ede
MELBOURNE, AUS
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

Bonnie Nixon
SYDNEY, AUS
Project Manager

- 5+ years of oncology clinical operations experience across Phase I – IV clinical trials
- Ex North America Study Manager at Genentech, Ex Roche Clinical Operations Australia

Imugene has a team with oncology clinical development experience

THE ONCOLYTIC VIRUS INVENTOR & CITY OF HOPE

Professor

Yuman Fong

the MIRACLE of SCIENCE with SOUL
City of Hope

A pioneer, both in the operating room and in the laboratory, Prof Yuman Fong, M.D., The Sangiacomo Family Chair in Surgical Oncology and chair of The City of Hope Dept of Surgery is an *internationally recognized expert* in liver and pancreatic cancer. He has developed many new surgical techniques and instruments. He has also led research efforts to use genetically modified viruses to destroy cancer cells.

Prof Fong joined City of Hope in 2014 after more than two decades at the renowned Memorial Sloan-Kettering Cancer Center in New York City.

Prof Fong is both an *author and innovator*. He has written and edited over 700 scholarly articles as well as 14 textbooks. He is currently the Editor-in-Chief of *Molecular Therapy Oncolytics* (Cell Press).

Prof Fong has had leadership roles in regulatory aspects of gene therapy, including serving as Chair or the Recombinant DNA Advisory Committee of the National Institutes of Health of the United States.

City of Hope, in Los Angeles, is *a leading research and treatment center* for cancer, diabetes and other life-threatening diseases. Founded in 1913, it is designated as a comprehensive cancer center, the highest recognition bestowed by the National Cancer Institute. City of Hope is also a founding member of the National Comprehensive Cancer Network, with research and treatment protocols that advance care throughout the US.

City of Hope has been ranked as one of the nation's "Best Hospitals" in cancer by *U.S. News & World Report* for over 10 years.

City of Hope has GMP facilities that produces clinical trials materials for many academic centers and is the alpha clinic trials site for CIRM

ONCOLYTIC VIRUS SCIENTIFIC ADVISORS

Professor Yuman Fong, OV SAB Chair

Dr Leonord Post

Senior Scientific Advisor

Len Post is currently Chief Scientific Officer of Vivace Therapeutics. Previous positions include CSO of BioMarin, CSO of LEAD Therapeutics, SVP of R&D at Onyx Pharmaceuticals, VP of Discovery Research at Parke-Davis Pharmaceuticals, and several positions at Upjohn. His involvement with oncolytic viruses began at Onyx on the oncolytic adenovirus program. He was later on the boards of directors of BioVex and then Viralytics.

Dr Prasad Adusumilli

Memorial Sloan Kettering Cancer Center

Deputy Chief, Thoracic Service; Co-Director, Mesothelioma Program; Head, Solid Tumors Cell Therapy, Cellular Therapeutics Center. Memorial Sloan Kettering Cancer Centre. These therapies include immunotherapy (enhancing patients' own immune systems using genetic and cell engineering) and oncolytic viral therapy (killing cancer cells using genetically engineered viruses).

Dr Rebecca Auer

uOttawa

Associate Scientist Cancer Therapeutics Program, The Ottawa Hospital Research Institute and Cross-Appointed Member, Associate Professor Department of Surgery and Department Biochemistry, Microbiology and Immunology University of Ottawa. Director of Cancer Research Ottawa Hospital.

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

Principal Investigator in the approved TENCENTRIQ® study for Roche

Imugene has a world renowned advisory board of scientists and oncologists

LANDSCAPE: RECENT ONCOLYTIC VIRUS TRANSACTIONS

IMUGENE
Developing Cancer Immunotherapies

Oncolytic viruses are attracting the serious attention of big pharma companies such as Merck, Boehringer and Janssen which made three acquisitions in 2018 alone totalling **over $1.0 billion**, including Viralytics.

$340m	$200m	$502m
Boehringer Ingelheim	Janssen Pharmaceutical Companies of Johnson & Johnson	MERCK
ViraTherapeutics	BeneVir	Viralytics Developers of Oncolytic Immunotherapies

In 2019 the attention continued with big pharma making more deals even with companies only in early development.

Takeda

TURNSTONE BIOLOGICS

$125m USD in upfront payment
$900m in milestone payments
+ co-development and commercialization

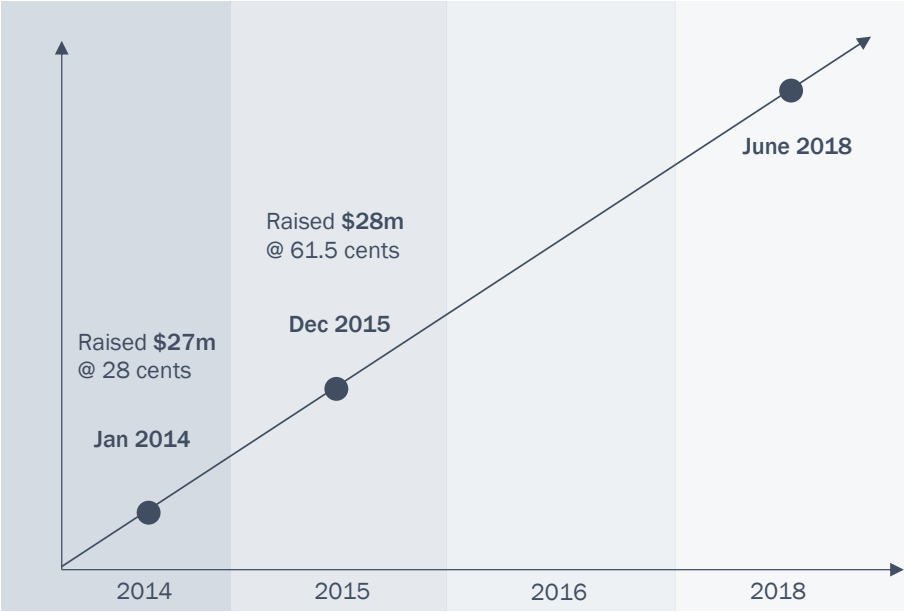
Total + $1billion USD

VIRALYTICS CASE STUDY

ACQUIRED BY MERCK FOR $502M

$502M Acquired by **MERCK** @$1.75

Virus	Picornovirus/coxsackie
Stage of Development	Phase 2
Disease types	Melanoma, bladder, colorectal, non small cell lung
Industry collaboration	Checkpoint combination trial with Merck
Investors	Orbimed, Abbingworth, Baker Bros, BVF, Quest
Team	Paul Hopper (Chair), McColl, Prof Darren Shafren, Turvey, Post



Viralytics
Developers of Oncolytic Immunotherapies

ONCOLYTIC VIRUS CLINICAL DEVELOPMENT TEAM – ex VIRALYTICS

IMUGENE
Developing Cancer Immunotherapies

Paul Hopper
Chairman
Former Chairman of Viralytics

Leslie Chong
MD & CEO

Dr Len Post
Senior Scientific Advisor

- Former Director Biovex
- Former Director Viralytics

Lisa Guttman
Director of Clinical Operations

- Former Clinical Trials Manager at Viralytics

Dr Seymour Fein
Medical Director

- Former Medical Monitor at Viralytics

Dr Evan Siegal
IND Lead

- Former IND Leader on Viralytics IND Submission

Dr Mike White
Biostatistician

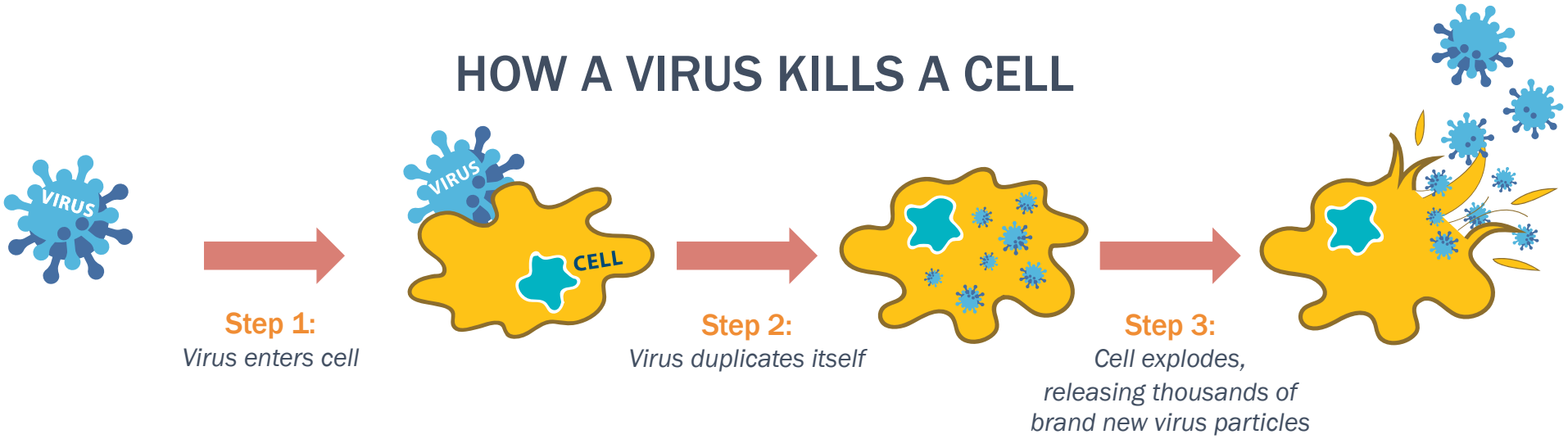
- Former Viralytics Biostatistician

Dr Nick Ede

- CMC and Imugene Chief Technology Officer

Viralytics
Developers of Oncolytic Immunotherapies

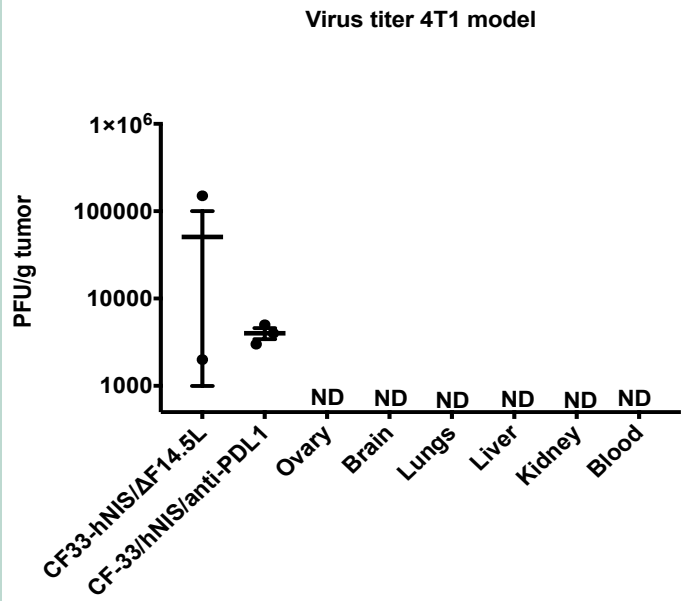
CF33 MECHANISM OF ACTION



- Direct infection, replication within and cancer cell killing
- Viral infection increases local check point targets (PD-1, PD-L1, CTLA4 etc)
- Cell death is immunogenic [surface expression of calreticulin, release of adenosine triphosphate (ATP) and release of high mobility group box 1 (HMGB1)]
- Local anti-PD-L1 expression may allow enhancement of anti-cancer immunotherapy
- Human sodium iodine symporter (hNIS) expression allows additional use of ^{131}Iodine or ^{188}Rhenium killing of infected cells and adjacent cells

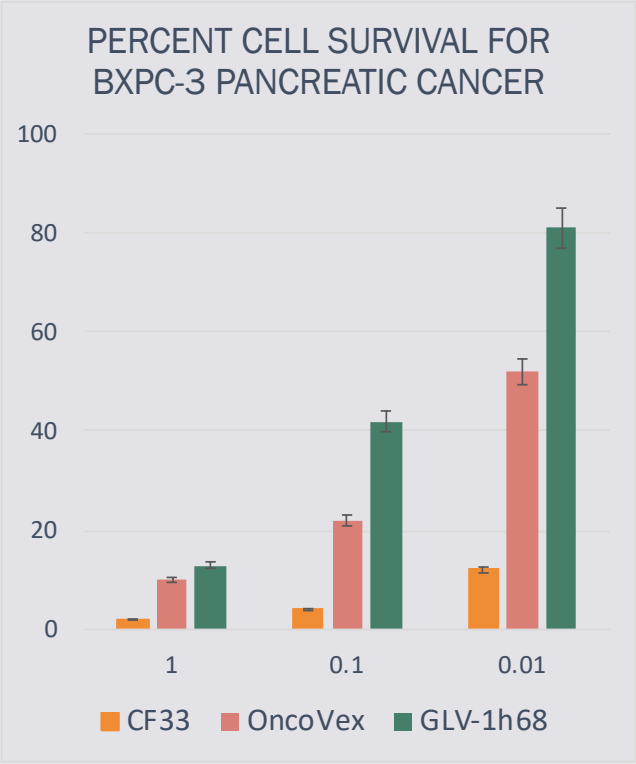
CF33 SAFETY

Figure 1. Day 7 biodistribution of the virus in Immune-competent mice: Immune-competent BALB/c mice bearing a single tumor in mammary fat-pad were injected with the the indicated HOVs (10e7 pfu, i.t.).

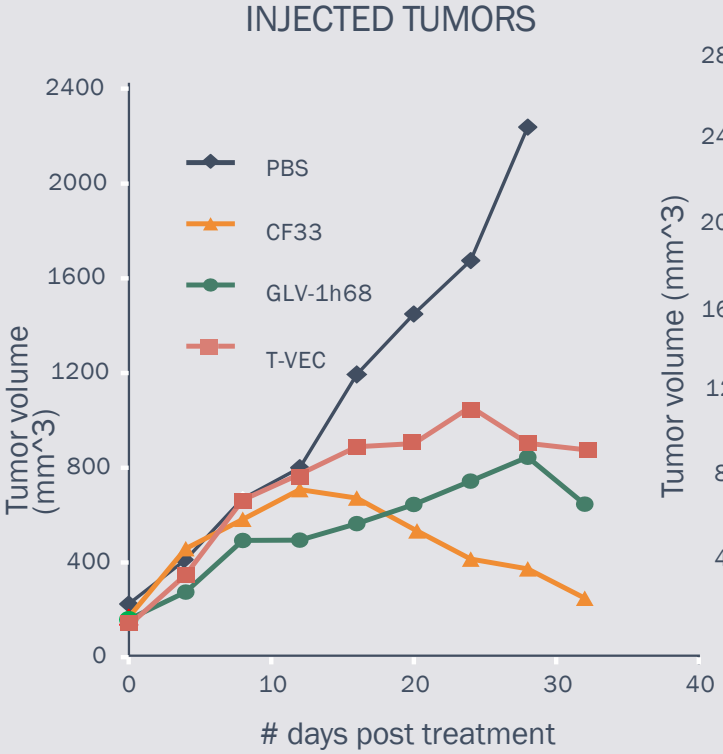


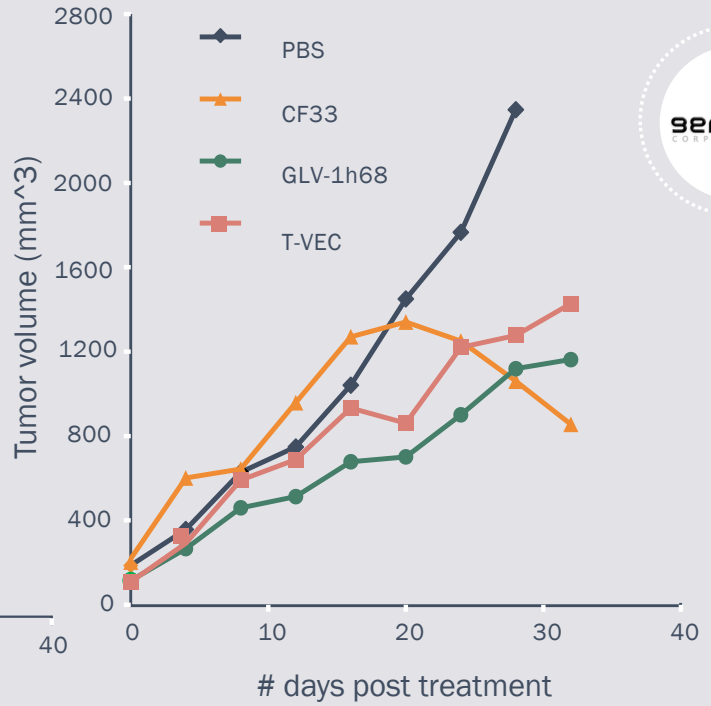
- A number of studies have been completed with CF33 as well as some of the derivatives. It has proven very safe in nude mice and in immunocompetent mice.
- In data published in Journal Translational Research, no viral shedding in blood and urine was found. No signs of illness were found and animals ate well and gained weight.
- In total, more than 900 mice have been treated with derivatives from this back bone. More than 50 mice have been treated with doses up to 10E7 IV and IT without signs of toxicity.
- In BALB-C mice, no virus can be detected by PCR at day 7 in any other organ (limit of detection approx. 200 copies), while it was detected in tumor (figure 1).

CF33 OUTPERFORMS AMGEN & GENELUX VIRUSES



MICE BEARING THE A549 XENOGRAFTS WERE TREATED WITH INDICATED VIRUSES AT A DOSE OF 10^3 PFU/MOUSE



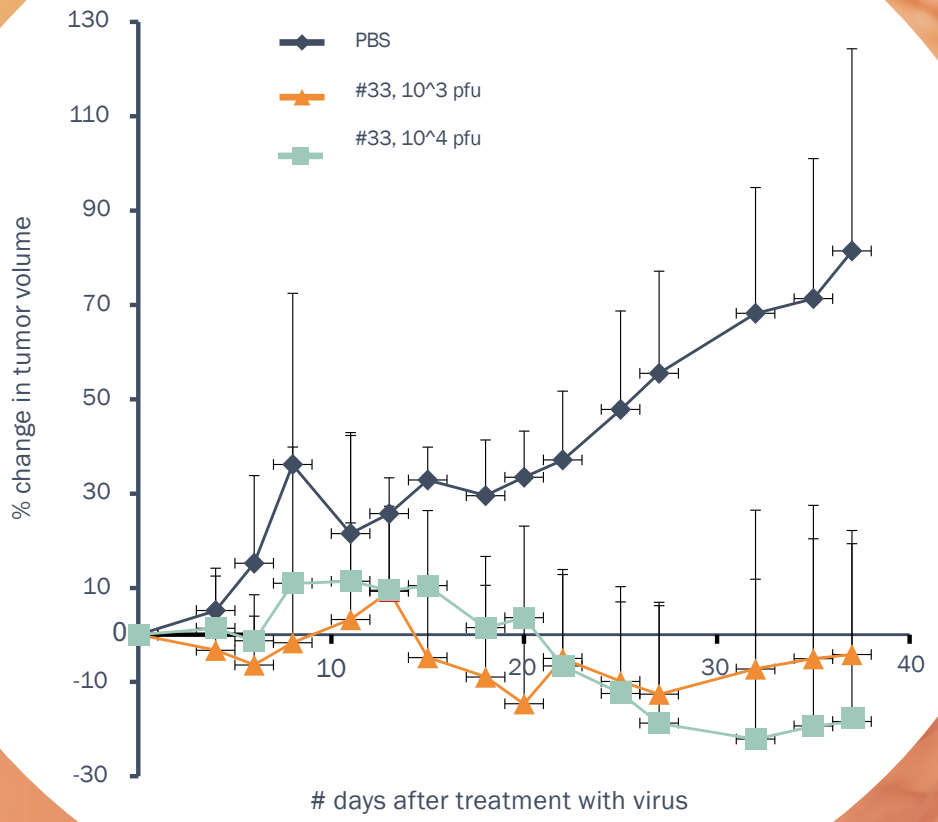


CF33 SHRINKS TRIPLE NEGATIVE BREAST CANCER

Mice treated with both intratumoral and IV

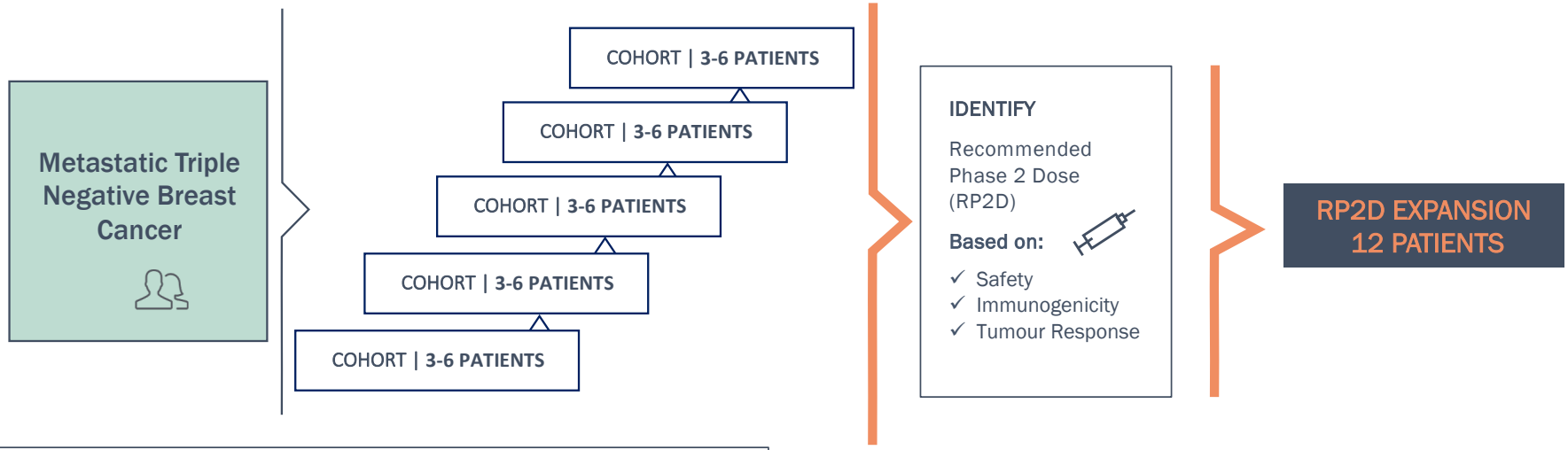
The viral dose used was **2-5 orders of magnitude** lower than doses used for oncolytic viruses under clinical testing.

Mol Ther Oncolytics 2018 Jun 29;9



CHECKvacc: CF33+hNIS+aPD-L1 (“Armed” Virus)

Q2 2020 Phase 1 Triple Negative Breast Cancer Study – GMP Manufacturing Complete



- ❑ Disease of need
  - 8-13 month survival for metastatic disease with few treatments
- ❑ Potential target for immunotherapy
  - Expresses PD1, PD-L1
- ❑ Treatment responses to Atezolizumab (JAMA Oncology, 5:74, 2019)
  - 1st line: 24%; 2nd line: 6%
  - Approved by FDA 8-March, 2019
- ❑ Potential for registration in well-designed, randomized P2 study

Indication	TNBC
FDA IND	CHECKvacc: CF33-hNIS-aPDL1
N	Part 1=18-24 ; Part 2=12
Location	Single Center: COH
Admin Route	Intratumoral (IT)

VAXinia PHASE 1/2 MAST STUDY (Mixed Advanced Solid Tumours)

Head & Neck, Advanced Melanoma, TNBC
IT Administration

Head & Neck, Advanced Melanoma, TNBC, NSCLC, Urothelial, Gastric, RCC
IV Administration

GMP manufacturing complete

PHASE 1 STUDY: DOSE SEEKING/SIGNAL FINDING

PHASE 2 – DOSE EXPANSION

Part 1

VAXinia Monotherapy Dose Escalation

IT or IV

COHORT | 3-6 PATIENTS
COHORT | 3-6 PATIENTS
COHORT | 3-6 PATIENTS
COHORT | 3-6 PATIENTS

COHORT | 3-6 PATIENTS
COHORT | 3-6 PATIENTS
COHORT | 3-6 PATIENTS
COHORT | 3-6 PATIENTS

IDENTIFY

Maximum Feasible Does (MFD)

Select ICI Combo

Based on:

- ✓ Safety
- ✓ Immunogenicity
- ✓ Tumour Response

Part 2

VAXinia + SOC IO Combination Dose Escalation

COHORTI | 3-6 PATIENTS
COHORT| 3-6 PATIENTS
COHORT | 3-6 PATIENTS

IDENTIFY

Recommended Phase 2 Dose (RP2D)

Based on:

- ✓ Safety
- ✓ Immunogenicity
- ✓ Tumour Response

VAXinia + SOC IO in selected tumour types

Phase 2

n=approx. 100

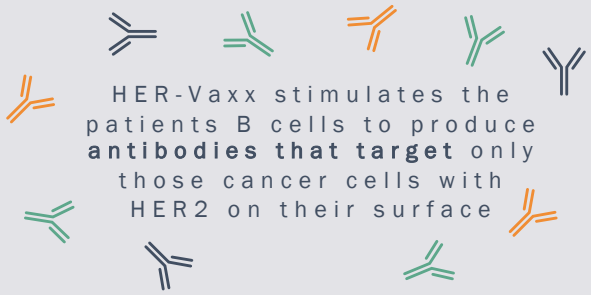
**IO: Cancer Immuno-therapy*

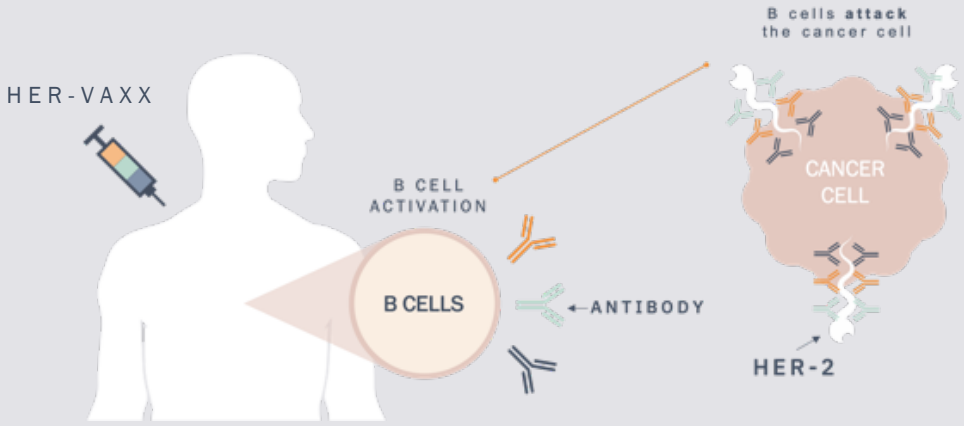
IMUGENE
Developing Cancer Immunotherapies

B-Cell Immunotherapy

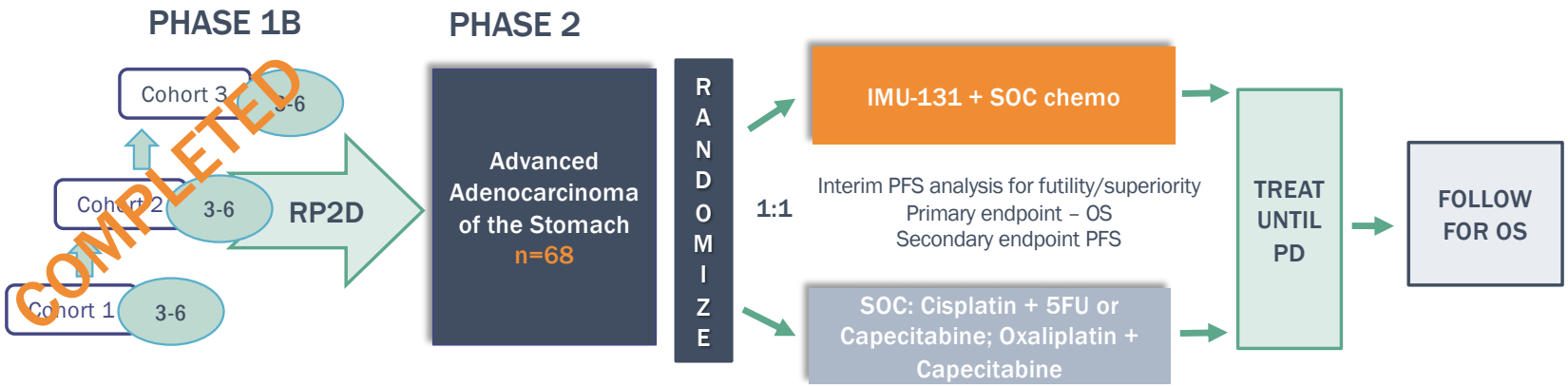
B-CELL IMMUNOTHERAPY VACCINE AGAINST HER-2

- HER-Vaxx is a **B-cell immunotherapy** designed to treat tumours that over-express the HER2/neu receptor, including **gastric and breast cancer**
- The immunotherapy is **constructed from three B cell epitopes** derived from the extracellular domain of HER2/neu
- HER-Vaxx is **under development for the treatment of HER2-positive gastric cancer**, and also has the potential to treat other HER2-overexpressing cancers
- HER-Vaxx has been shown in pre-clinical studies and now in a Phase I study to stimulate a **potent polyclonal antibody response** to HER2/neu, a well-validated cancer target





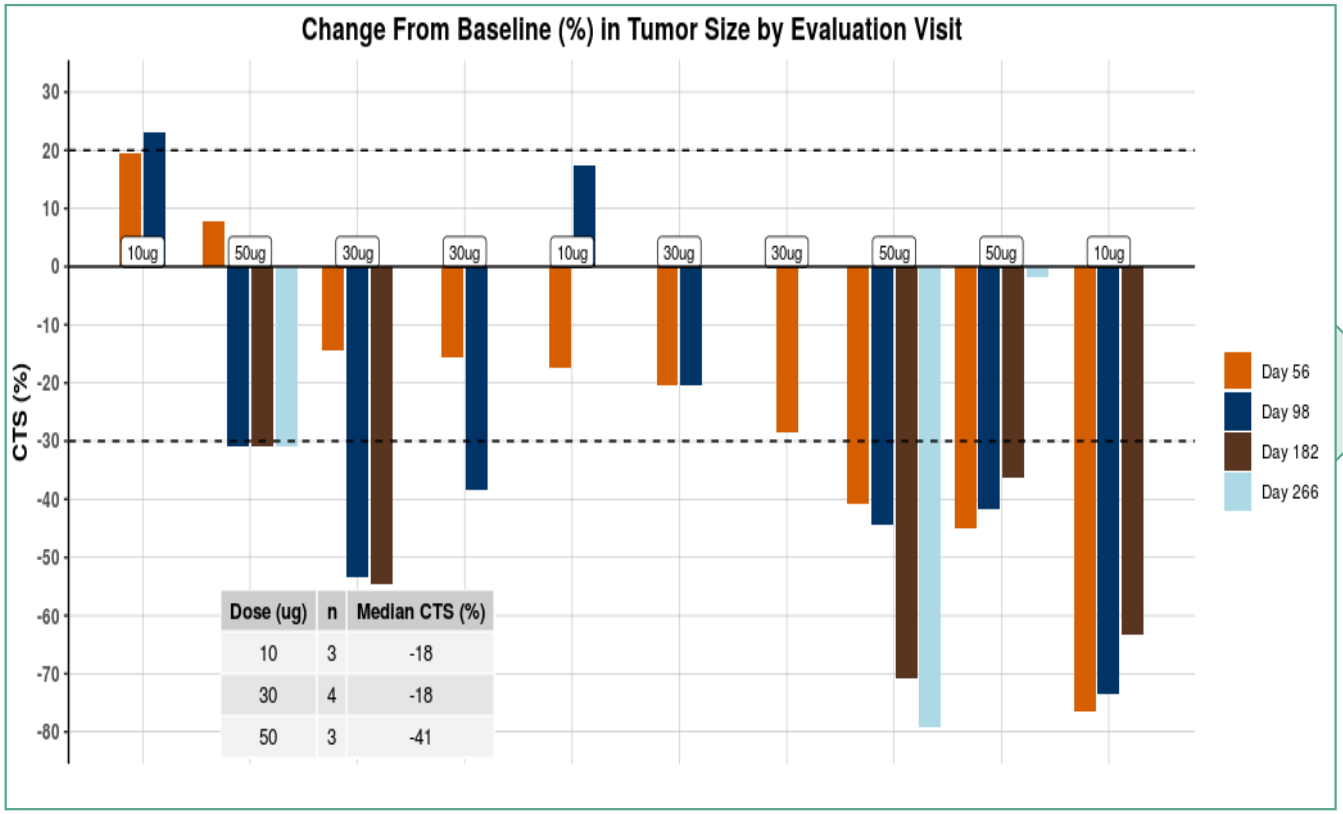
HER-Vaxx PHASE 1B/2 STUDY DESIGN



Phase	Phase 1B	Phase 2
Indication	Newly diagnosed HER2+ gastric cancer	Newly diagnosed HER2+ gastric cancer
Endpoint	Safety & Tolerability, Immunogenicity, RP2D	Primary: OS, Secondary: PFS, Safety & Tolerability, Immune Response
No of Patients	14	68
Site location	Asia, Eastern Europe, India	Eastern Europe, India

COMPLETED

HER-Vaxx PHASE 1B: CLINICAL RESPONSE



Dose (ug)	n	Median CTS (%)
10	3	-18
30	4	-18
50	3	-41

- The preliminary immunology and clinical response data are promising.
- Safety data indicates that IMU-131 is well-tolerated with no significant local or systemic reactions.
- There were no dose-limiting toxicities observed, no significant injection site reactions and no IMU-131 related SAEs.
- Preliminary response data demonstrates 50 µg of IMU-131 was associated with tumor size reduction.
- The 50 µg dose of IMU-131 is being used in a phase 2 study.

GOING FORWARD: HER-Vaxx PHASE 2 RECRUITING

Trial

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

Patients

- HER-2+++
- HER-2++ FISH/CISH +ve
- Advance or metastatic Gastric Cancer
- Stage IIIb/IV
- 68 patients in two arms

Study

Randomized

HER-Vaxx in combination with standard of care chemotherapy

Or

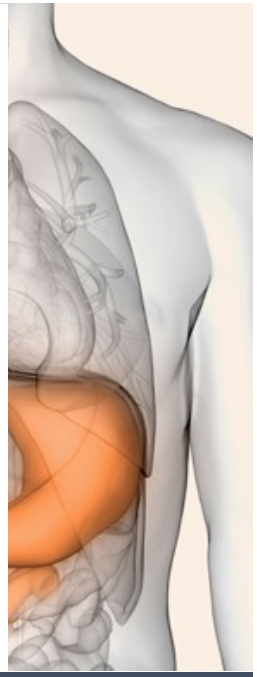
Standard of care chemo: Cisplatin and 5FU or capecitabine or oxaliplatin

Primary Endpoints

- Overall survival

Secondary Endpoints

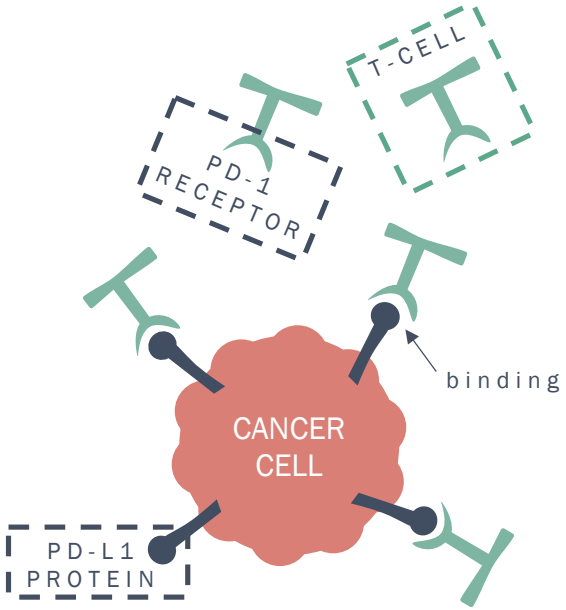
- Progression-free survival
- Safety and Tolerability
- Immune response



First patient dosed March 2019

HOW DOES PD1-Vaxx WORK?

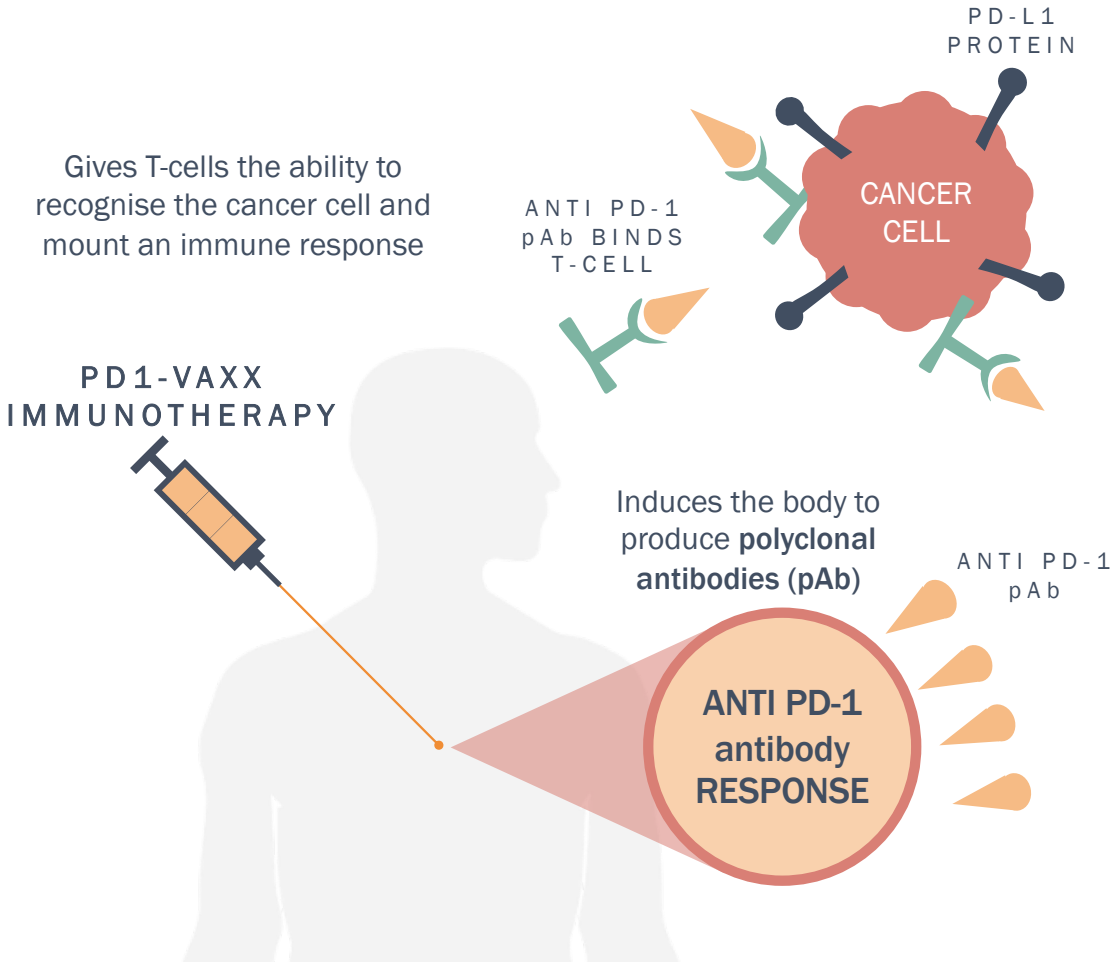
HOW CANCER STAYS UNDETECTED BY THE IMMUNE SYSTEM



The PD-L1 protein binds to the PD-1 receptor and stops the T-Cell from recognising the cancer cell, allowing the cancer cell to survive and spread

PD1-VAXX STOPS THE CANCER CELL FROM AVOIDING T-CELL RECOGNITION AND KILLING

Gives T-cells the ability to recognise the cancer cell and mount an immune response



PD1-Vaxx: VACCINE IN PHASE 1 DEVELOPMENT PATH

IMUGENE
Developing Cancer Immunotherapies

Current status

PRE-CLINICAL MILSTONES

- PD-1 candidate vaccine identified
- CMC manufacturing
- Successful pre-clinical FDA de-briefing meeting in Q1, 2019
- Finalise regulatory IND submissions Q1, 2020
- FDA/IND Granted by Q2, 2020
- Q2, 2020 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
- ✓ Tumour PD

Phase 2 – Expansions Assumption

Expansions

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

Proof of Concept

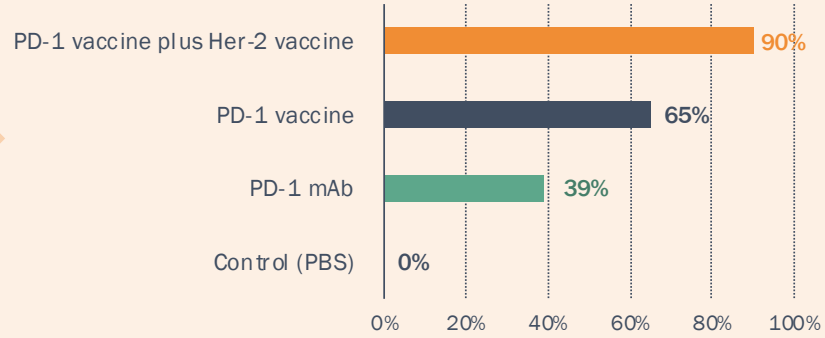
PD-1/HER-2 COMBINATION: POTENTIAL TO INCREASE RESPONSE RATES IN HER-2+ CANCERS

IMUGENE
Developing Cancer Immunotherapies

Immuno-oncology combinations are 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

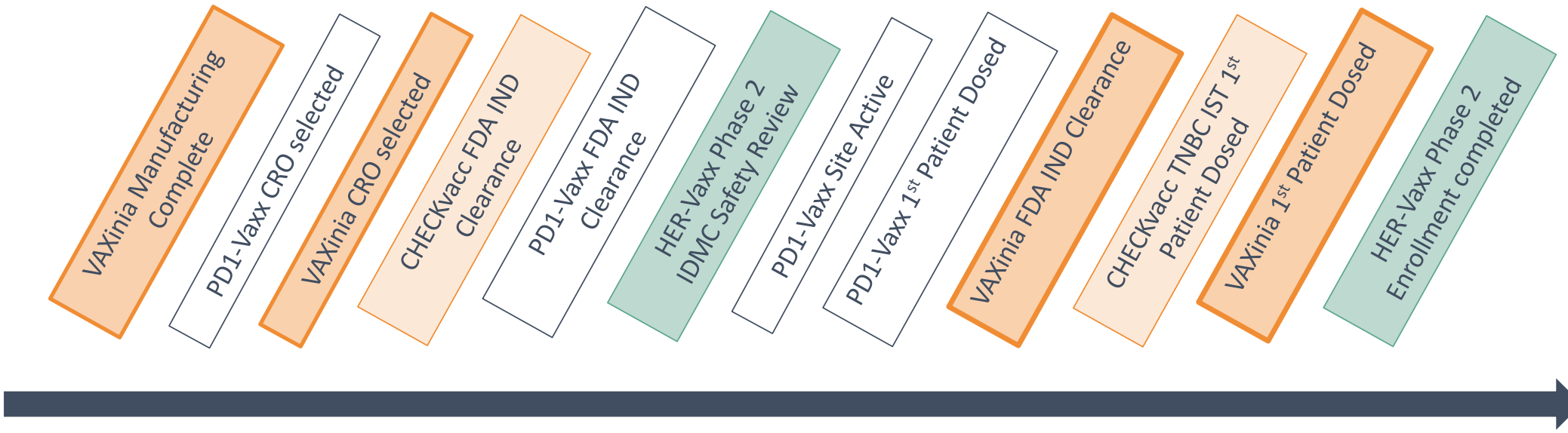
In 2018, the FDA approved the Opdivo and Yervoy combination for a subset of patients with metastatic colorectal cancer

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

MULTIPLE NEAR & MEDIUM TERM VALUE INFLECTION POINTS



Next 12 months

FINANCIAL SUMMARY

Public Market Overview

Share Price [1]	A$0.035
Market Capitalisation [2]	A$150M
52 week high/low	6.3c / 1.3c
Cash equivalents (Dec 2019)	A$36.8M
Enterprise Value	A$84.7M

Top 5 Shareholders (as at February 2020)

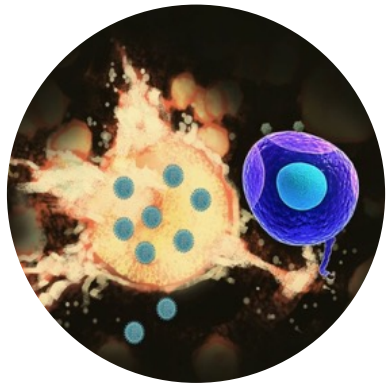
Paul Hopper
Private Portfolio Manager (PPM)
Private Holder
Citicorp Nominees Pty
Private Holder

Share Price Performance (last 6 months)

Note:
1. As of 21 February 2020
2. Market capitalization calculations based on ordinary shares (4.43b) only

INVESTMENT HIGHLIGHTS

- Two novel technologies: CF33 oncolytic virus and B-Cell immunotherapy
- CF33 recently acquired from City of Hope Cancer Centre in Los Angeles
- CF33 poised to enter two Phase 1 clinical trials in 2020
- CF33 has demonstrated single agent & combination activity
- Prolific and compelling pre-clinical data
- CF33 GMP manufacturing complete for both trials
- Highly experienced CF33 management including ex-Viralytics clinical development team
- B-Cell technology currently recruiting Phase 2 trial in gastric cancer & initiate Phase 1 for PD1-Vaxx 1H, 2020
- Robust, long life IP portfolio over both technologies
- Significant news flow with multiple near & medium term valuation inflections



Leslie Chong
Managing Director & CEO

leslie.chong@imugene.com
+61 458 040 433