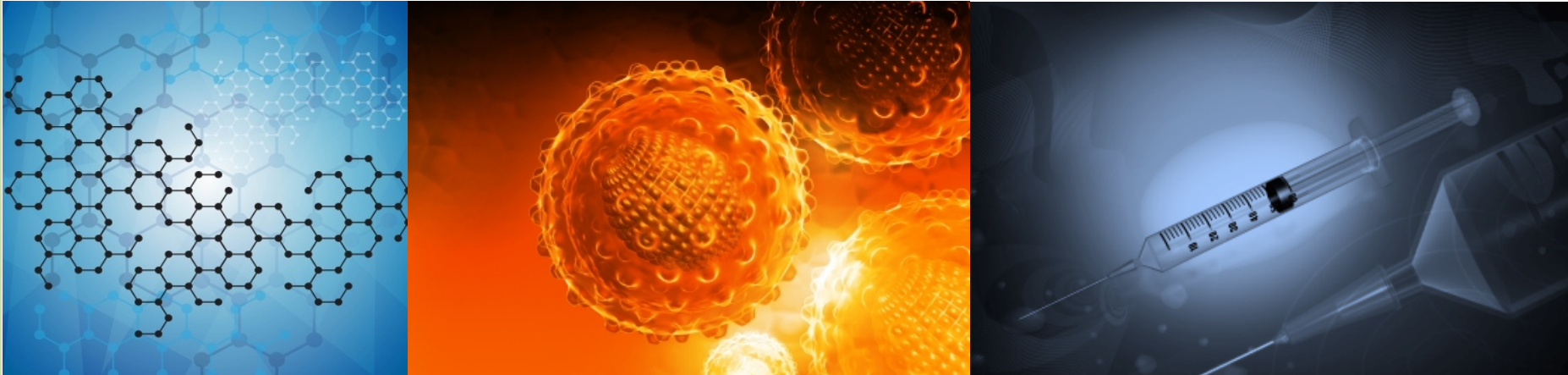


ASX: IMU



An immuno-oncology company developing HER-2+ gastric and breast cancer therapies

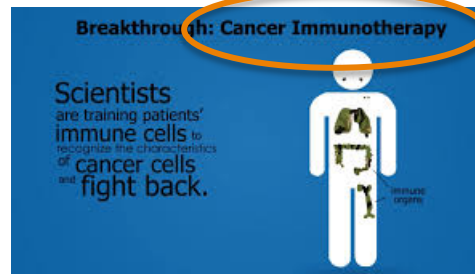
Investor Presentation
16 September 2014

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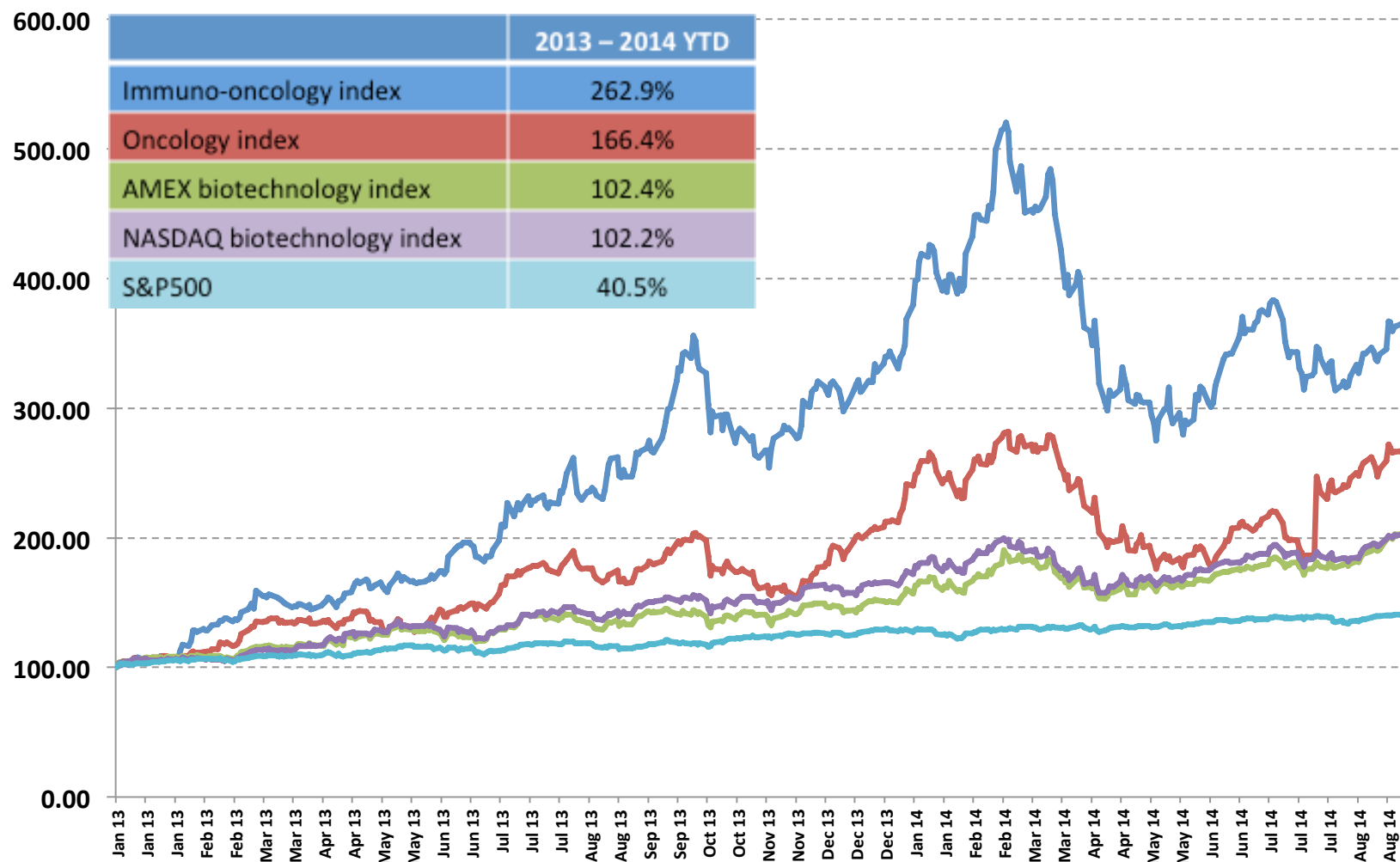
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Imugene is an immuno-oncology company developing B-cell based immunotherapies, known as HER-Vaxx, for HER-2 positive gastric and breast cancer, in the highest profile area of oncology today – immunotherapy.



Immune-oncology: Gathering Momentum



Source: Oppenheimer & Co., FactSet and company websites

Notes:

1. Immuno-oncology index includes Advaxis, Argenus, Argos, Celldex, Collectis, Five Prime, Heat Biologics, Innate Pharma, Idera, Inovio, MacroGenics, NewLink and Northwest Bio. Excludes Immune Design, Kite Pharma as they have traded for less than 90 days
2. Oncology index excludes Immune Design, Kite Pharma, and Loxo Oncology as they have traded for less than 90 days

Why Invest?

Strong Scientific Provenance	Compelling science from one of Europe's leading cancer institutes
Low Valuation	Pronounced valuation anomaly compared with other ASX biotechs in Phase 2
Proven Leadership and Management	The right, experienced, successful team on board to aggressively drive HER-Vaxx development
Significant Investment to Date	Approximately \$10 million invested to date
News Flow	Numerous milestone announcements and valuation inflexion points over next 12 months for investors
Robust IP	Long-life patents up to 2030, granted in all major jurisdictions
Upside	Potential to be bigger than Roche's \$6.5bn drug, Herceptin

Leadership – Experience & Track Record



Charles Walker
CEO

- Former CEO & CFO of ASX-listed Alchemia, a late stage oncology biotech company
- 20+ years in the life science industry including a decade in specialist corporate finance in London
- Executed ~50 capital markets transactions as principal and advisor



Paul Hopper
Executive Chairman

- Extensive international and ASX biotech capital markets experience particularly in cancer vaccines
- Head of Life Sciences Desk and Australia Desk at Los Angeles-based investment bank, Cappello Capital Corp



Dr Axel Hoos
Non-Executive Director

- Currently Vice President Oncology R&D at GlaxoSmithKline
- Previously Clinical Lead on Ipilimumab at Bristol-Myers Squibb
- Co-Director of the think-tank Cancer Immunotherapy Consortium; Imugene is his only Board seat world wide



Otto Buttula
Non-Executive Director

- Mr Buttula has an extensive and successful research and financial services management history spanning 25+ years
- Since 2012 he has been an active investor in the biotechnology sector with a particular focus on the oncology opportunities. He has built significant positions in several ASX listed companies including Imugene



Dr Nick Ede
Executive Director

- Former CTO Consegna, CEO Adistem Ltd, CEO Mimotopes P/L, COO EQiTX Ltd (ZingoTX & VacTX)
- VP Chemistry Chiron (now Novartis), Research Fellow CRC Vaccine Technology

Strong Scientific Advisory Board



Prof Christophe Zelinski

- Director, Clinical Division of Oncology and Chairman, Department of Medicine at Medical University Vienna, Austria
- Coordinator of the Comprehensive Cancer Center at Medical University Vienna and the General Hospital in Vienna, Austria
- President, Central European Cooperative Oncology Group



Prof Ursula Wiederman

- Professor of Vaccinology at Medical University of Vienna, and Chair of the Vaccinology Committee of the Austrian Society of Allergy and Immunology
- Deep vaccine experience with over 100 scientific publications and numerous citations



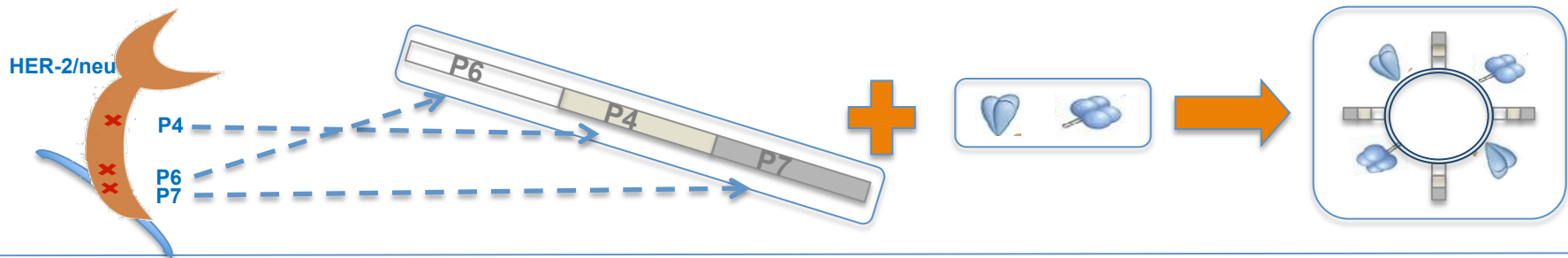
Dr Neil H. Segal

- Oncologist at the Memorial Sloan Kettering Cancer Center in New York, the oldest and largest private cancer centre in the US
- His research interests focus on the development of new therapies and more specifically, ways to use the immune system to treat cancer
- Has clinical expertise in colorectal, pancreatic, bile duct & other GI cancers



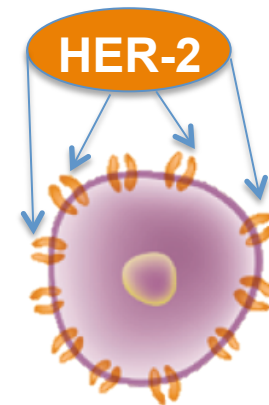
HER-Vaxx

- ❖ HER-Vaxx is a cancer immunotherapy designed to stimulate a patient's own immune system to attack the cancer
- ❖ HER-Vaxx stimulates a patient's B cells to produce antibodies that target only those cancer cells with HER-2 on their surface
- ❖ About 20% of patients with gastric cancer have the HER-2 molecule – known as being “HER-2 positive (+)”
- ❖ A Phase I study has shown:
 - ❖ Generation of anti HER-2 antibodies by patients
 - ❖ Patient antibodies showed potent anti-tumour activity
 - ❖ Patients generated immune responses
- ❖ A Phase II clinical study is planned in patients with HER-2 overexpression with gastric cancer

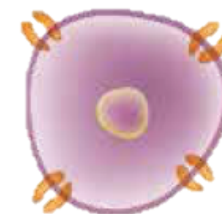


Why Is HER-2 A Prime Target?

- ❖ HER-2 stimulates cancer cells to grow and appears in ~20-30% of patients with cancers such as gastric, breast, ovarian and pancreatic
- ❖ Too much HER-2 (known as *over expression*) is associated with:
 - Higher chance of cancer spreading
 - Greater probability of cancer recurrence (local & systemic)
- ❖ HER-2 is a clinically and commercially validated target
 - Roche's Herceptin is an antibody targeting HER-2 for breast cancer and HER-2 positive gastric cancer in some countries
 - Herceptin sales of \$6.5bn pa
 - Roche's newly launched Perjeta also targets HER-2
- By targeting HER-2 and stimulating patients to make their own antibodies, HER-Vaxx has the potential to improve upon Herceptin and Perjeta



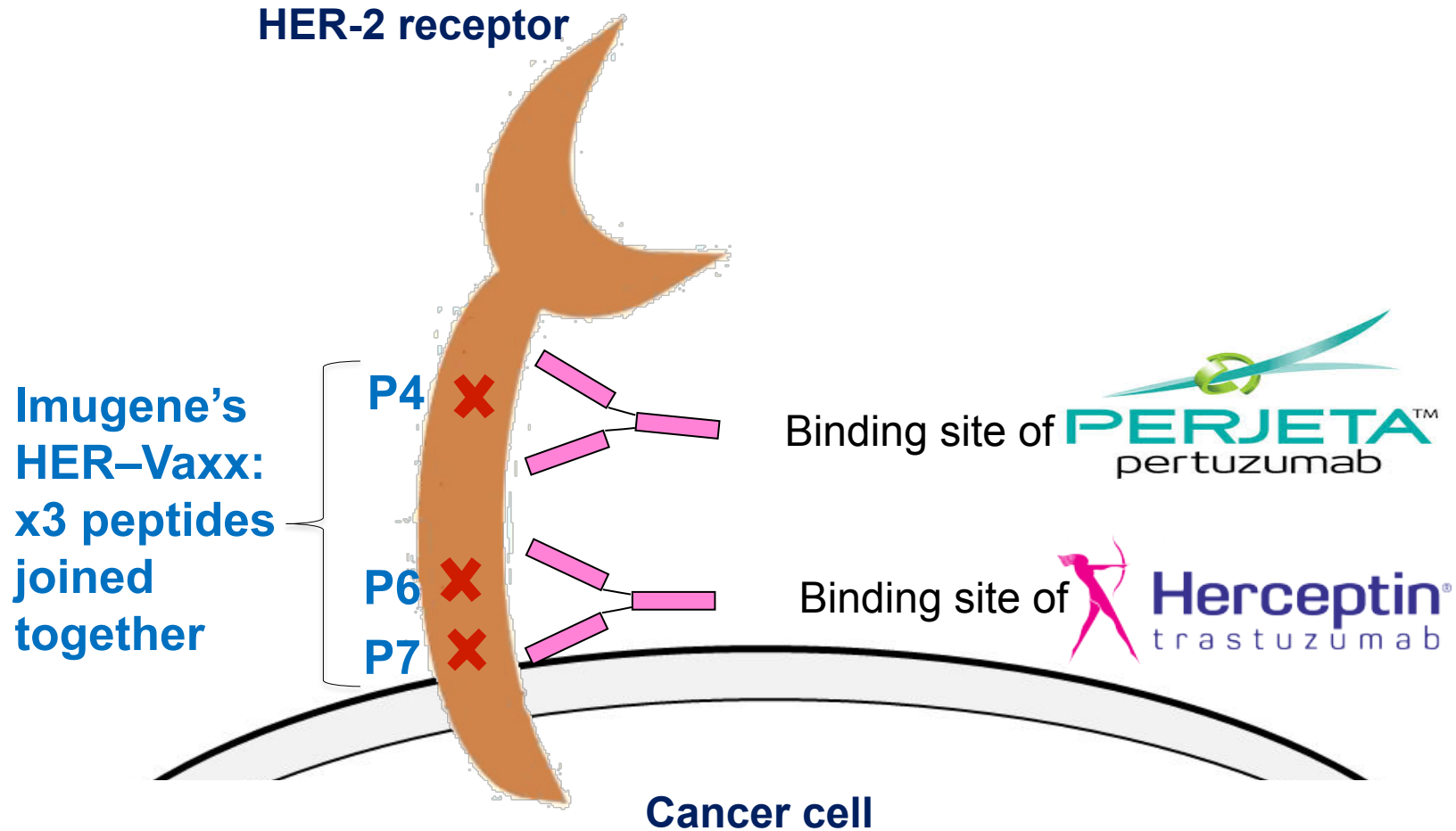
Cancer cell over expressing HER-2



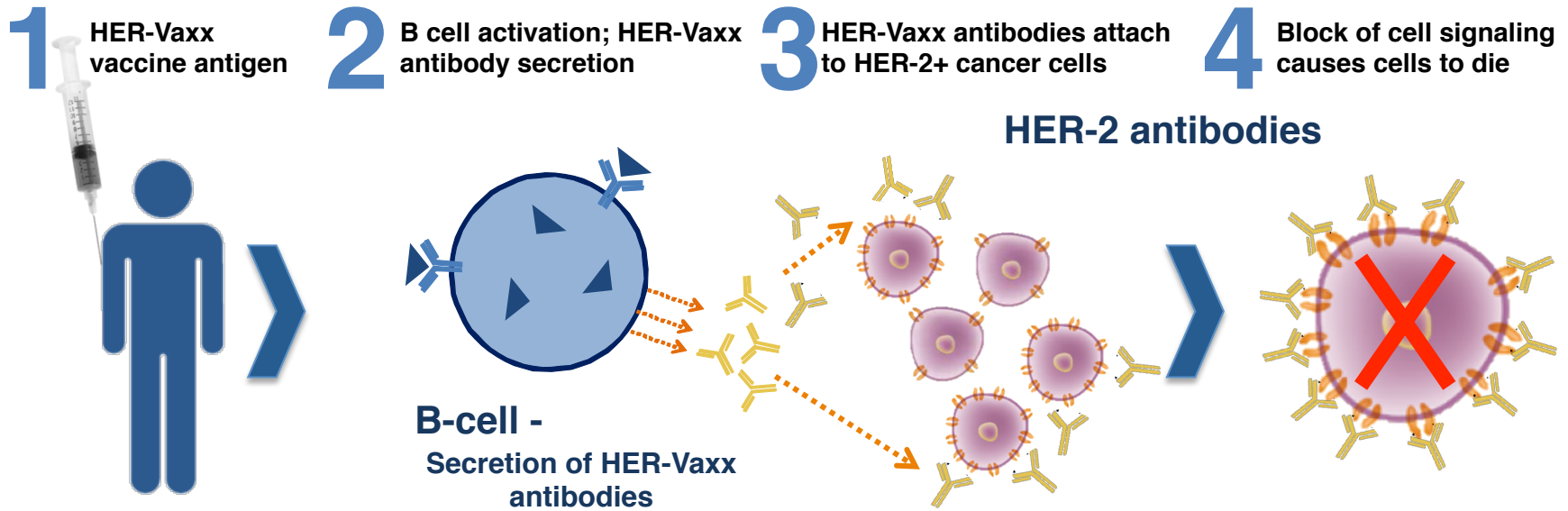
Normal cell



HER-2 Target



How Does HER-Vaxx Work?



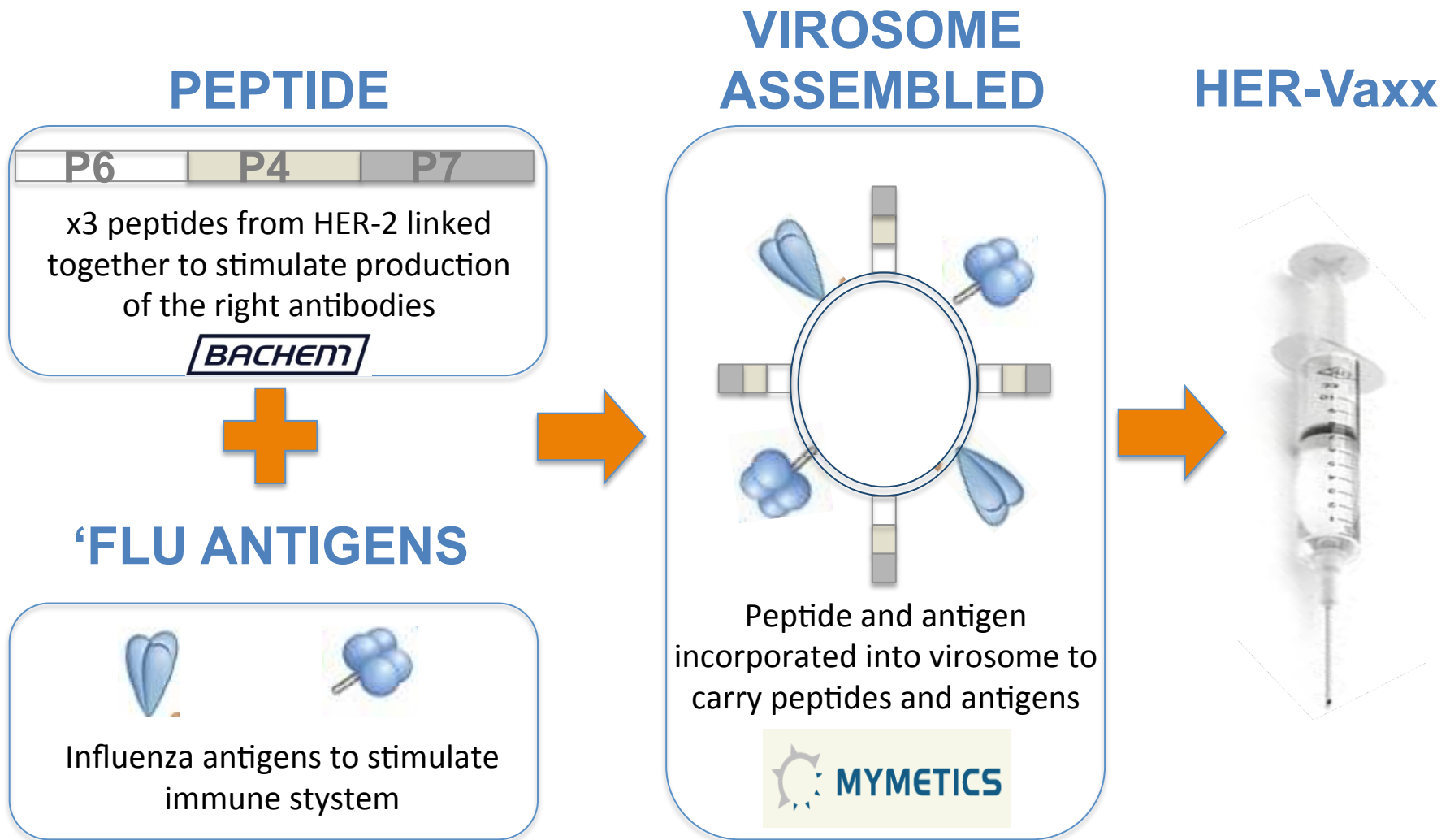
Patients injected with HER-Vaxx

B-cells of the patients' spleen, bone marrow & lymph nodes produce antibodies against HER-2

Antibodies attach themselves to cancer cells by binding HER-2

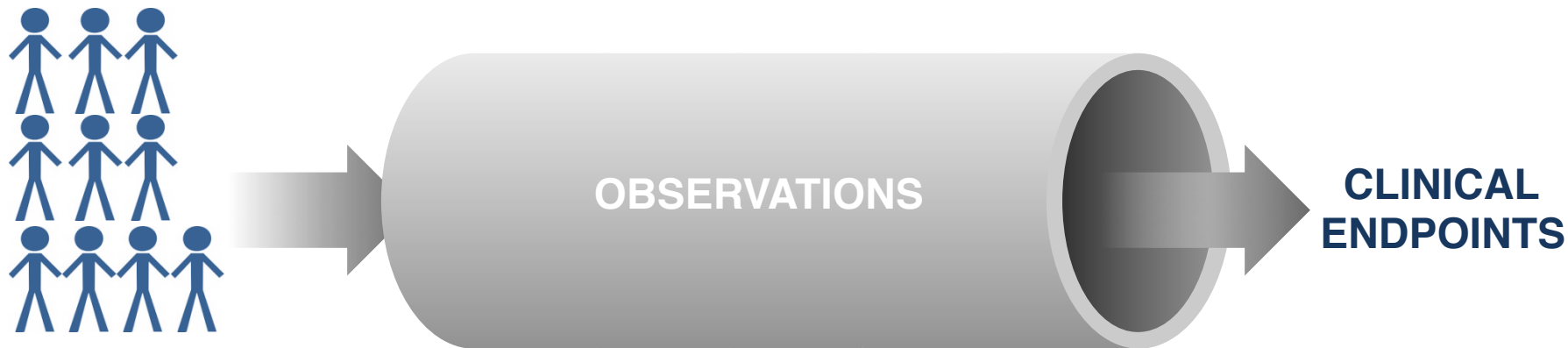
Antibody binding to HER-2 blocks the cell growth signals and eventually the cancer cell dies

HER-Vaxx Manufacture Process



“Peptide vaccines have the benefit of being easy to construct and manufacture on a large scale, they’re inexpensive, and very importantly they are off-the-shelf therapy,”
 Elizabeth Mittendorf, associate professor of surgical oncology, MD Anderson Cancer Center

Clinical Status: Phase I Completed



1 n=10

2 All metastatic breast cancer patients

3 HER-2 +/++

4 Endocrine dependent disease

5 Life expectancy > 4 months

6 Conducted at University of Vienna

- Patients developed anti-HER-2 antibodies
- Antibodies induced displayed potent anti-tumour activity
- Showed immune response

1 Safety & Tolerability

2 **Immunogenicity:**
antibodies/humoral
and cellular
responses

Phase I trial in patients with breast cancer published:

Wiedermann et al., Breast Cancer Res Treat (2010)119:673 - 683

Positive Phase I Trial Results

1 Humoral

- Produced Her-2 specific antibodies

2 Cellular

- **Cellular immune responses (PBMCs):** IL-2, IFN γ , TNF α indicated induction of TH-1 biased immune responses
- **Sufficient induction of memory T & B cells after vaccination** (comparable to healthy controls)
- **Significant reduction of reg T cells after vaccination** (indicating a good vaccine responsiveness as well as beneficial anti-tumour effect)

3 Disease

- Stable disease in 50% of patients
- 1 patient in remission, indicating a beneficial effect of the immune responses induced by vaccination, even in a non-target population

4 Safety / Toxicity

- No side-effects
- Negligible toxicity

"We believe this data is encouraging given the trial was conducted in a non target population"
- RM Research

Clinical Trials

- ❖ Combined Phase 1/2 clinical trial planned
- ❖ Confirms safety
- ❖ Phase 1 lead in to Phase 2 trial:
 - ❖ ~20 patients
 - ❖ Endpoints:
 - ❖ Dose of HER-Vaxx to use in Phase 2 part of study:
 - ❖ Safety: any HER-Vaxx toxicity
 - ❖ Immunogenicity (anti-HER2/neu antibody titers)
 - ❖ Test booster schedule (q 4 weeks or 8 weeks)
- ❖ Phase 2 trial:
 - ❖ ~70 patients
 - ❖ Clinical activity
 - ❖ Safety

Robust Phase II Clinical Design: Big Pharma Focused

**Double blind, randomised,
placebo-controlled study**

Small open label lead-in
phase (n=20), to determine
dosing

1:1 randomisation

Arm1: n=34; Arm 2: n=34

**Relapsed metastatic gastric
cancer patients over
expressing HER-2/neu**

ENDPOINTS

**Phase II
N \geq 68**

**34 patients with
HER-Vaxx + Chemo**

**34 patients with
Chemo alone**

Primary End-point

- Overall survival (OS)
- Progression-free survival (PFS) as assessed by immune-related response criteria

Secondary End-point:

- Immune response

Gastric Cancer

- ❖ Gastric cancer is the second leading cause of cancer mortality and the fourth most common cancer in the world
- ❖ Approximately 934,000 new cases diagnosed and an anticipated 700,000 deaths annually accounting for 10.4% of cancer deaths worldwide
- ❖ In European Union (EU27) there were estimated to be around 83,000 new cases of stomach cancer diagnosed, with 55,896 deaths.
- ❖ Incidence
 - ❖ In the US, an estimated 21,300 new cases and 10,540 deaths in 2012
 - ❖ In Australia, there are approximately 1,900 new cases each year
 - ❖ China has the largest patient population with 42% worldwide cases
- ❖ Median overall survival in advanced gastric cancer is under 12 months

Sources:

Int J Cancer. 2012 Feb 15;130(4):745-53

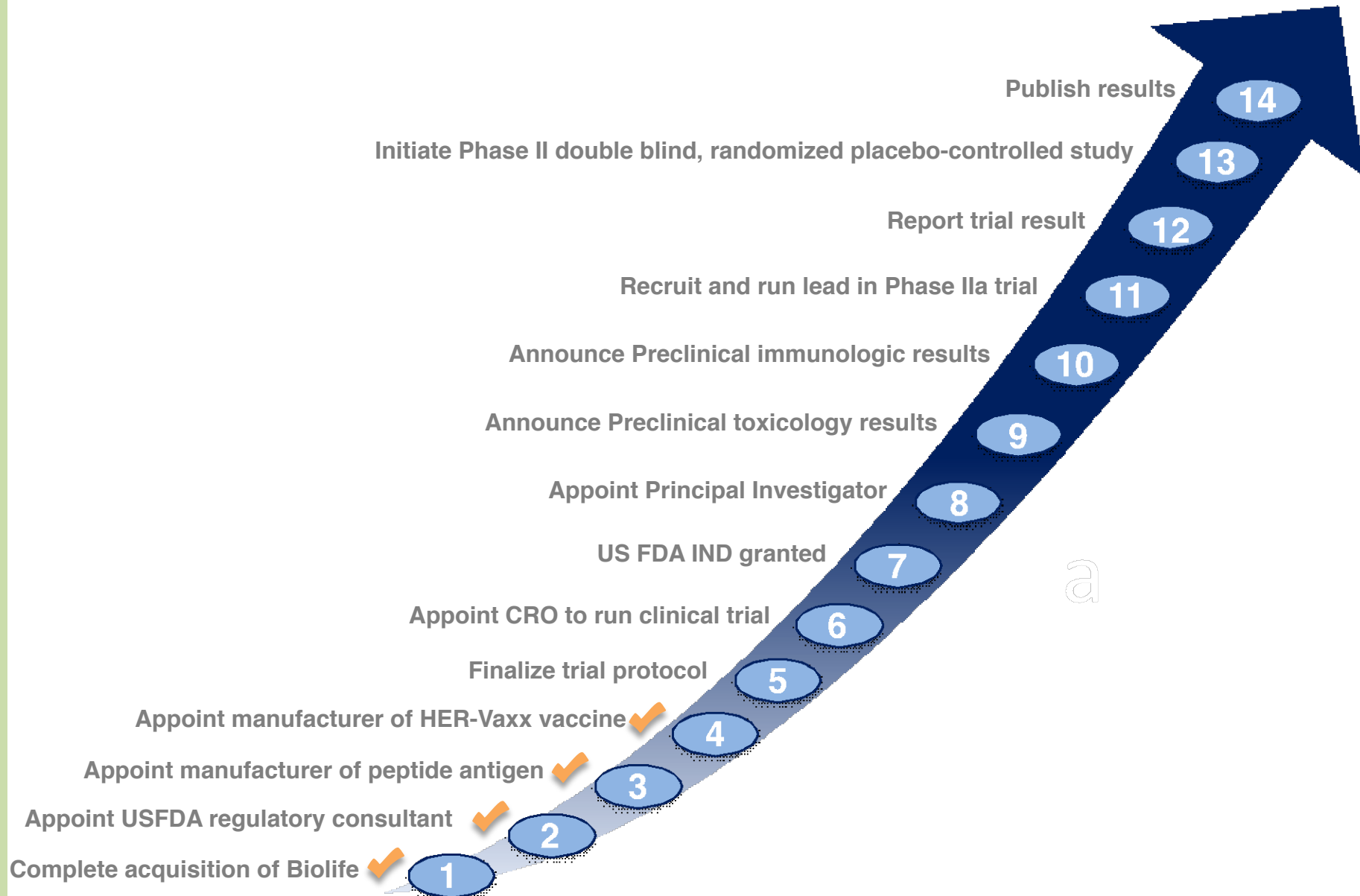
Expert Rev Gastroenterol Hepatol, 2012

Intellectual Property

- ❖ 4 Patent families
- ❖ No infringement or disputes
- ❖ US, Europe, Australia, Canada, Israel
- ❖ Acquired from Pevion and Biolife

Claim	Expiry Date
“Vaccine against diseases that are associated with the HER-2/Neu oncogene”	27 February 2022
“HER-2/Neu Multi-peptide vaccine”	11 April 2027
<i>“Multi-epitope vaccines for HER-2/Neu associated cancers</i>	<i>18 August 2030</i>
“Lyophilisation of virosomes”	21 December 2025

Newsflow And Milestones



Pronounced Valuation Anomaly – Below US Peers

Company	Market Cap (USDm)	Development Phase
Agios Pharmaceuticals, Inc.	\$1,549	Phase I
Karyopharm Therapeutics, Inc.	\$1,224	Phase I
Dicerna Pharmaceuticals, Inc.	\$242	Phase I
Immune Design Corp.	\$191	Phase I
Heat Biologics, Inc.	\$42	Phase I
Imugene Ltd.	\$14	Phase I
Loxo Oncology, Inc.	\$236	Phase I
Epizyme, Inc.	\$994	Phase I/II
Kite Pharma, Inc.	\$952	Phase I/II
Idera Pharmaceuticals, Inc.	\$217	Phase I/II
Ignyta, Inc.	\$147	Phase I/II
Inovio Pharmaceuticals, Inc.	\$649	Phase I/IIa
Five Prime Therapeutics, Inc.	\$253	Phase Ib
OncoMed Pharmaceuticals, Inc.	\$526	Phase Ib/II
Acceleron Pharma, Inc.	\$827	Phase II
Innate Pharma S.A.	\$603	Phase II
MacroGenics, Inc.	\$591	Phase II
Array BioPharma, Inc.	\$489	Phase II
TG Therapeutics, Inc.	\$342	Phase II
ZIOPHARM Oncology, Inc.	\$300	Phase II
Bionomics Ltd.	\$235	Phase II
Verastem, Inc.	\$227	Phase II
BIND Therapeutics, Inc.	\$171	Phase II
MEI Pharma, Inc.	\$149	Phase II
Fate Therapeutics, Inc.	\$111	Phase II
TetraLogic Pharmaceuticals Corporation	\$108	Phase II
Cerulean Pharma Inc.	\$87	Phase II
Endocyte, Inc.	\$283	Phase IIb
Stemline Therapeutics, Inc.	\$144	Phase IIb

Source: Oppenheimer & Co.
As of 30 Aug 2014

Pronounced Valuation Anomaly – Below ASX Peers

Company	Market Cap (USDm)	Development Phase
Cellmid	\$22	Pre-clinical
Phylogica	\$13	Pre-clinical
Antisense Therapeutics	\$19	Phase I
Benitec Biopharma	\$90	Phase I
Circadian Technologies	\$10	Phase I
Patrys	\$16	Phase I
Imugene	\$15	I/II
Oncosil Medical	\$41	Phase II
Viralytics	\$50	Phase II
Innate Immuno Therapeutics	\$41	Phase II
Bionomics	\$263	Phase II
Neuren Pharmaceuticals	\$155	Phase II

Source: Bloomberg
 As of 27 Aug 2014

Share Price

- ❖ Share Price (12 Sep 2014): 1.5 cents
- ❖ Shares in issue: 964m
- ❖ Market capitalisation (12 Sep 2014): \$15m
- ❖ FY 2014 loss: \$2.1m
- ❖ FY 2014 cash and equivalents: \$1.8m
- ❖ Net assets (June 30 2014): \$6.7m



Why Imugene?

HIGH QUALITY SCIENCE	<ul style="list-style-type: none"> ➤ The subject of numerous peer reviewed published journals ➤ Medical University of Vienna, one of Europe's leading cancer institutes ➤ Technology developed over 10 years
SUPERIOR, APPROACH AGAINST A VALIDATED TARGET	<p>Unlike many immunotherapies, HER-Vaxx is directed against a validated target, HER-2</p> <ul style="list-style-type: none"> ➤ HER-Vaxx addresses the targets of Herceptin <i>and</i> Perjeta <i>combined</i> ➤ Herceptin <i>and</i> Perjeta have proven synergy ➤ Herceptin sales of \$6.5bn in 2013
VALUATION	<ul style="list-style-type: none"> ➤ Attractively priced & heavily discounted to ASX and international peers
LEADERSHIP	<ul style="list-style-type: none"> ➤ Leading clinical and scientific experts; experienced and well incentivised management
PHASE II READY	<ul style="list-style-type: none"> ➤ HER-Vaxx FDA Phase 2 trial designed to be robust & big pharma orientated
NEWS FLOW	<ul style="list-style-type: none"> ➤ Focused 24 month program to deliver results/value inflection
ROBUST IP	<ul style="list-style-type: none"> ➤ IP portfolio 100% owned with 2030 horizon

Contact:

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