



# Annual General Meeting

22 November 2018

Regeneus Ltd (ASX:RGS)

## Forward-Looking Statements

This Presentation contains certain statements which constitute forward-looking statements or information ("forward-looking statements"). These forward-looking statements are based on certain key expectations and assumptions, including assumptions regarding the general economic and industry conditions in Australia and globally and the operations of the Company. These factors and assumptions are based upon currently available information and the forward-looking statements contained herein speak only as of the date hereof. Although the Company believes the expectations and assumptions reflected in the forward-looking statements are reasonable, as of the date hereof, undue reliance should not be placed on the forward-looking statements as the Company can give no assurances that they will prove correct and because forward-looking statements are subject to known and unknown risks, uncertainties and other factors that could influence actual results or events and cause actual results or events to differ materially from those stated, anticipated or implied in the forward-looking statements. These risks include, but are not limited to: uncertainties and other factors that are beyond the control of the Company; global economic conditions; risks associated with biotechnology companies, regenerative medicine and associated life science companies; delays or changes in plans; specific risks associated with the regulatory approvals for or applying to the Company's products; commercialisation of the Company's products and research and development of the Company's products; ability to execute production sharing contracts, ability to meet work commitments, ability to meet the capital expenditures; risks associated with stock market volatility and the ability of the Company to continue as a going concern. The Company assumes no obligation to update any forward-looking statements or to update the reasons why actual results could differ from those reflected in the forward-looking statements, except as required by securities laws.

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# Agenda

1. FY18 Achievements
2. Japan Update
3. FY18 Financial Results
4. Patent Portfolio Update
5. Outlook
6. Investment Summary

Supporting Information

# FY18 Achievements

# FY18 Achievements

## Progenza

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- Significant progress to establish AGC's manufacturing capabilities of Progenza to prepare for commercial-scale production and further clinical trials in Japan
- Second Japanese licence deal **on track for H1 FY19**, as management significantly advances discussions to secure a partner for the Phase 2 trial and clinical development and commercialisation of Progenza
- Journal of Translational Medicine<sup>1</sup> publishes positive results from Progenza Phase 1 STEP safety trial, showing disease modification in patients with knee osteoarthritis
- Progenza granted Advanced Therapy Medicinal Products (ATMP) classification by Committee of Advanced Therapies of the European Medicines Agency, recognising it as a regenerative therapy within the EU's legal and regulatory framework
- US<sup>2</sup> and EU Patents<sup>3</sup> to be granted for the composition, manufacture and use of Progenza

# FY18 Achievements

## Sygenus

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- Sygenus preclinical trial delivers positive results in post-operative pain study, demonstrating a sustained analgesic affect, which was longer lasting than morphine
- Positive trial results from the topical application of Sygenus gel, which was shown to significantly reduce the appearance of non-inflammatory lesions and significantly reduced patients' acne global severity score after a 6-week period
- Positive trial results from the topical application of Sygenus gel, which was shown to significantly lighten the colour and size of age spots, increase skin smoothness and was well tolerated by patients
- Broad Australian patent granted for the topical application of Sygenus in the treatment of aging skin and age spots
- Chinese patent for the use of Sygenus in the topical treatment of Acne, providing commercial rights in China to 2032

# FY18 Achievements

## RGSH4K Cancer Immunotherapy Vaccine

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- Completed Phase 1 ACTIVATE trial
- Primary endpoint of safety and tolerability met
- Signs of immune stimulation in patients, as demonstrated in changes in cancer markers, immune cells and cytokines, with some patients showing preliminary indications of anti-tumour activity

# Japan Update



# Update on Japan: AGC Manufacturing Licence



Progenza know-how successfully transferred to AGC



Cell production facility established at AGC's Yokohama Research Centre



Knowledgeable team with considerable cell therapy experience recruited



The AGC team is able to replicate the processes for the Progenza production method used in the STEP trial



AGC developing processes to further industrialise and scale-up the manufacturing process

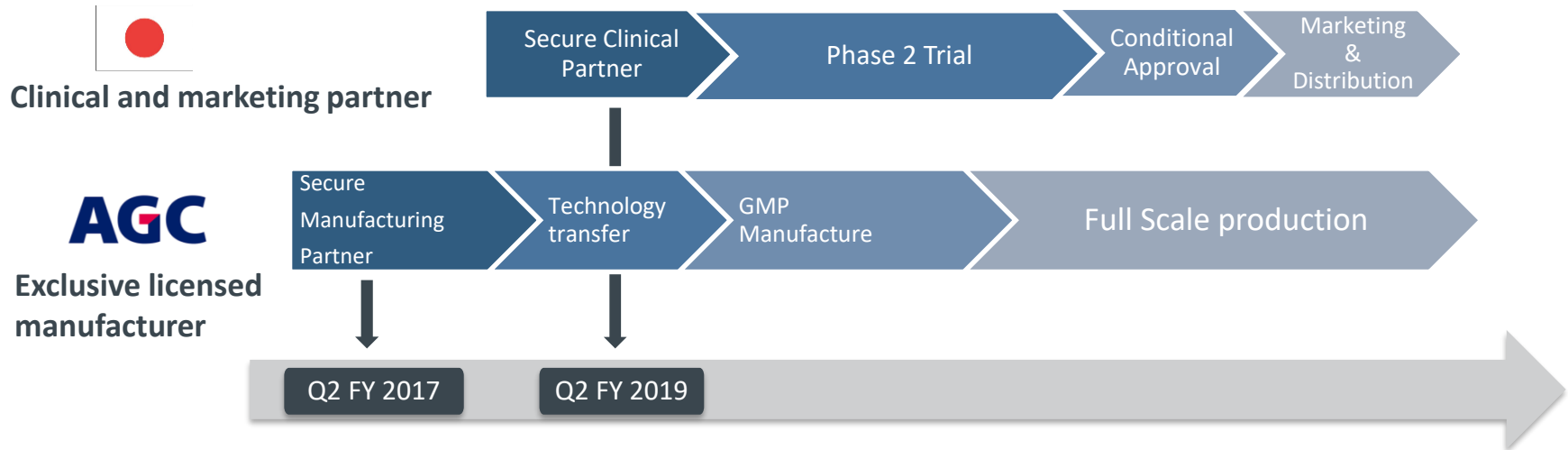
This foundation underpins AGC's goal to manufacture Progenza under Current Good Manufacturing Practices (cGMP) for clinical studies and commercial supply in Japan



# Japan Update: Poised for clinical and marketing partnership

Licence represents inflection point which will drive growth in long term shareholder value

- Significant progress made towards finalising terms and conditions to secure Regeneus' first clinical partner for Progenza in Japan
- Management anticipates the partnership to be secured and details of this collaboration will be announced this quarter
- This clinical collaboration will be an inflexion point for Regeneus, complementing the existing manufacturing relationship and commercial venture with AGC and positioning the company in Japan to grow long-term shareholder value
- Collaboration will provide a foundation for new collaborations in other key markets



# Japan: Significant Regenerative Medicine Corporate Activity



## \$630 million acquisition

- Belgian BioTech
- Exploiting anti-inflammatory properties of stem cells
- Developing novel therapies for serious medical conditions in areas of high unmet medical need

HEALTHCARE

JANUARY 5, 2018 / 5:23 PM / A MONTH AGO

## Japan's Takeda to acquire TiGenix for \$630 mln

Reuters Staff

1 MIN READ



TOKYO, Jan 5 (Reuters) - Japan's Takeda Pharmaceutical Co said on Friday it has agreed to buy Belgian biotech group TiGenix NV for 520 million euros (\$628 million).



## \$102.5 million acquisition

- Universal Donor Cell technology
- Therapeutic cell therapy products that do not require Human Leukocyte Antigen (HLA) matching
- Developing potential innovative cell therapies for numerous diseases with high unmet medical needs



## \$56 million license expansion

- US Bone Marrow derived MSC company
- Developing novel therapies for neurological, cardiovascular, inflammatory and immune disease areas.

June 07, 2018 11:33 am UPDATED 6/8/2018

## Athersys Inc. and Healios complete deal to expand their MultiStem partnership

By SCOTT SUTTELL



## Strategic 9% equity stake

- Australian stem cell and regenerative medicine company
- Stem-cell platform technology (IPSCs) with starting material with unlimited expansion potential

## Cynata Therapeutics Lands Japanese Giant Fujifilm

March 28, 2017 By Cade Hildreth (CEO)

\*Post also available in: 日本語

It is not every day that an Aussie minnow lands a deal with a Japanese whale. When Fujifilm took a 9% equity stake in [Cynata Therapeutics Ltd \(ASX: CYP\)](#), it was a major lift for the regenerative medicine company, positioning Cynata to benefit not only from Fujifilm's resources but also more broadly from current economic strategy within Japan. Prime Minister of Japan, Shinzō Abe, has committed to building leadership around a new generation of regenerative medicine products involving human cells and tissues and Cynata is now perfectly positioned to take advantage of this in the world's second largest market for healthcare products.



# FY18 Financial Results

# FY18 Financial Results

- Revenue of \$611k (FY17:\$10.1m)
  - FY17 includes \$8.9m in AGC licence fees
  - Appointment of second licensing partner expected to contribute to FY19 licence fee income and triggers milestone payment under existing AGC licence
- Operating loss of \$5.2m (FY17: \$3.3m profit)
- Operating expenses maintained at \$7.96m (FY17: \$8.05m)

## Update

- R&D tax incentive \$2.4m (FY:\$2.6m) received in Q1
- Loan facility of \$1.9m secured and drawn down
- Ongoing quarterly cash used in operations remains consistent in FY19 of <\$1.7m

# Patent Portfolio Update

# Patent Portfolio Update

## 80+

patents or patent applications  
across 14 patent families

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**14** patents in Australia  
**3** patents in New Zealand  
**3** patents in the US  
**1** patent in EU, 2 allowed  
**3** patents in Japan  
**1** patent in China & Singapore

Patents cover:  
methods of manufacture, compositions and  
delivery; use of products for treatment of a broad  
range of indications

### Key patents granted

- Patent granted or allowed in US, Europe Australia, NZ and Japan covering Progenza technology – allogeneic stem cells and secretions for the treatment of osteoarthritis and other inflammatory conditions in humans and animals
- Patent granted in EU, USA and China covering Sygenus stem cell secretions for topical treatment of acne
- Patent granted in Australia, New Zealand and Japan covering cancer vaccine technology for the treatment of cancers in humans (RGSH4K) and animals (Kvax)

# Outlook



# Outlook

The Company remains poised to deliver on a number of important commercial, clinical and R&D milestones FY19 and into FY20, including:

- Securing its first clinical development and marketing partner for Progenza in Japan
- Progressing the clinical development of Progenza for osteoarthritis and other indications in Japan
- Commencing manufacturing of cGMP Progenza in Japan under the Company's existing strategic collaboration and licensing agreement with AGC
- Securing additional licensing opportunities for Progenza in additional key territories, including the USA, China and the European Union
- Progressing the development of Progenza for specific pain indication
- Progressing the development of Sygenus for specific pain and dermatological indications
- Advancing licensing discussions for RGS4K following positive ACTIVATE trial results
- Reporting on CryoShot canine pre-pivotal trial and advancing licensing discussions

# Investment Summary

# Investment Summary



Global regenerative medicine market presents a strong and growing market opportunity, growing from US\$10billion in 2020 to US\$380 billion by 2050



Well positioned with novel, validated, scalable and commercially viable stem cell and immuno-therapy technologies combined with a successful licence driven business model



Multiple licence opportunities for Regeneus' portfolio of assets across each platform: manufacturing rights; clinical indications; and territories



Validated technology through published clinical data; technology licensing and collaborations, business partnerships and granted patents



Imminent clinical licence of Progenza in Japan following AGC manufacturing licence and collaboration in FY17



Management team with track record of developing and licensing novel regenerative medical technologies and translating into the clinic



Low 'cash burn' funded by Japanese partner licence fees



Significant value creation milestones over the next 3 months

# Contact

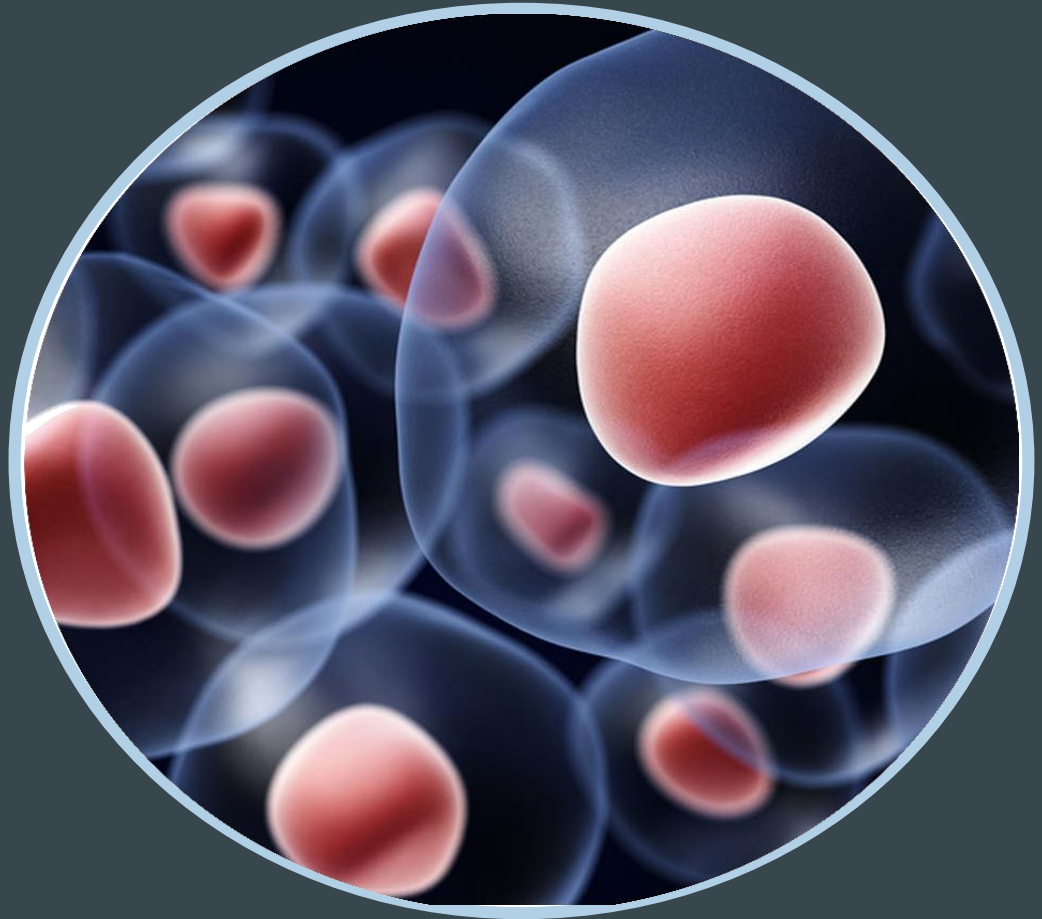
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# Supporting Information

# Corporate Overview

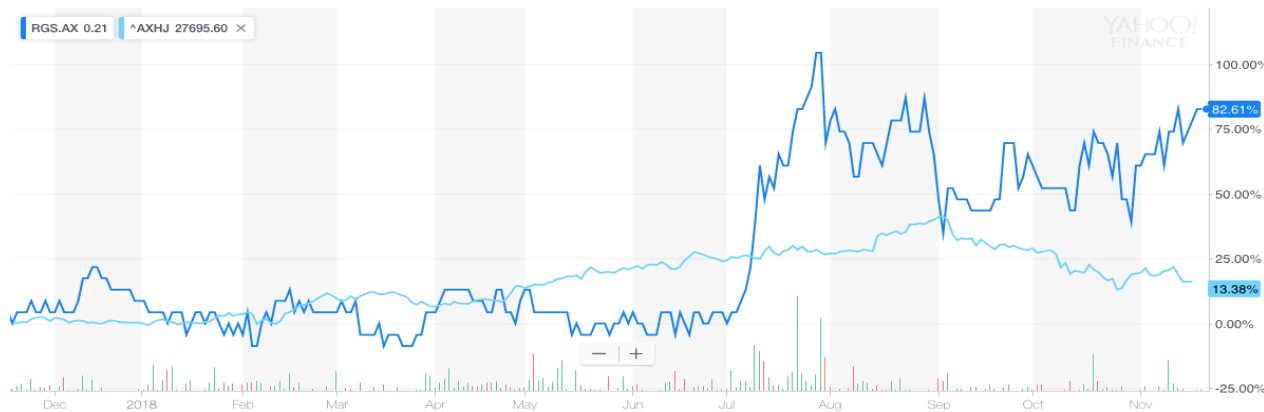
## Regeneus Ltd (ASX: RGS) – Australian-based clinical-stage Regenerative Medicine Company

Regeneus is developing a **portfolio of novel cell-based therapies**, using stem cell and immuno-oncology technologies

- These therapies will **address unmet medical needs in the human and animal health markets** and focus on osteoarthritis and other musculoskeletal disorders, oncology and dermatology
- **Technology is validated by:**
  - Positive preclinical and clinical data
  - Collaboration with AGC, leading biopharma manufacturer in Japan
  - Substantial IP portfolio >70 patents and patent applications
- Regeneus only **the 17<sup>th</sup> Australian company to secure a significant technology licensing agreement in Japan** in past 20 years

| ASX code                                  | RGS            |
|---|----------------|
| Share price (19 Nov 2018)                 | \$0.21         |
| Market Capitalisation                     | 43.9 million   |
| Shares on issue                           | 209 million    |
| Options – avg exercise price \$0.19       | 5 million      |
| Board & Executives shares/options         | >15%           |
| Cash (30 Sep 18)                          | \$2.7 million  |
| <b>Investment since commencement 2009</b> |                |
| Capital raised                            | \$31.1 million |
| R&D expenditure                           | \$45.6 million |
| R&D tax incentive                         | \$20.1 million |

### Share Price Chart



# Japan: Fast Track Approval for Regenerative Medicine Products

- In late 2014, new laws came into force in Japan allowing conditional approval of RMPs after confirmation of safety and “probable efficacy” – same level as orphan indications
- Smaller trial numbers
- All cell therapy products have potential to qualify for conditional approval as RMP – open to foreign companies
- Removes need for expensive Phase 3 trials
- 70% Government reimbursement
- 5-7 years to gain clinical data

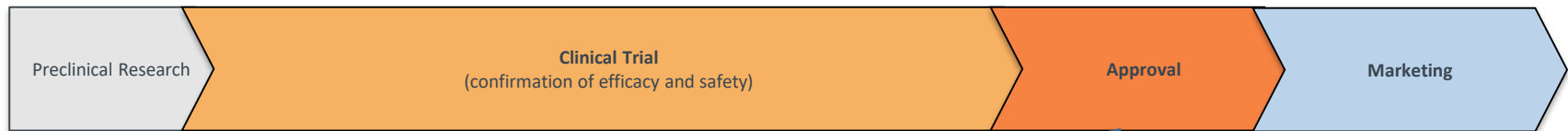


**Second largest  
healthcare market  
in the world**

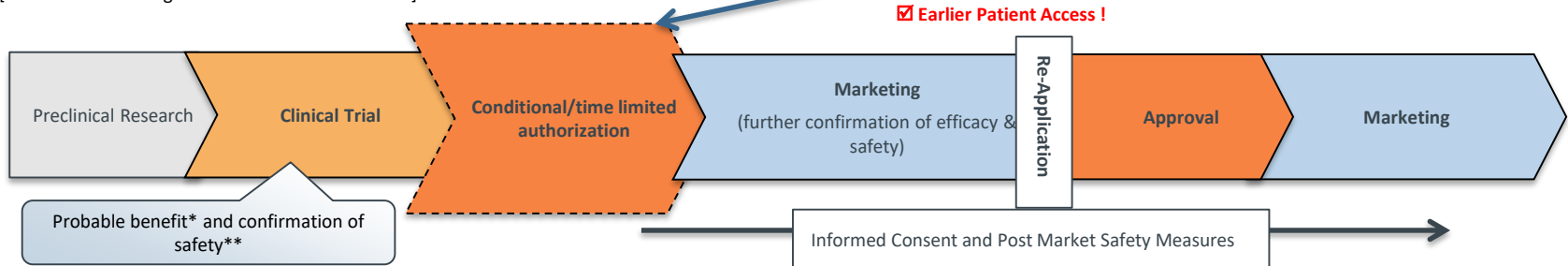


**Japan Regen Med  
sector projected to  
grow to US\$5.5b by  
2030**

[Traditional Approval Process]



[New Scheme for Regenerative Medicinal Products]





\*Probable benefit\*: Confirmation of efficacy with small population

\*\*Safety: Evaluation of acute adverse events etc.

# Collaboration with World Leading Bio-pharma Manufacturer

**Regeneus and AGC, the leading Japanese manufacturer of biopharmaceutical products, enter into collaboration and licence agreement for the manufacture and joint licensing of the clinical development of its off-the-shelf stem cell therapy platform, Progenza, in Japan**

|   |   |  |  |   |
|---|---|--|--|---|
|    | Received<br><b>US\$5.5M</b><br>Upfront licence<br>fee | Entitled to<br><b>US\$11.0M</b><br>Specific milestone<br>payments                    | Established<br>50/50 JV for<br>licensing clinical<br>development and<br>marketing rights<br>of Progenza for<br>OA and all other<br>indications in<br>Japan | Entitled to<br>50% of<br>Progenza<br>clinical<br>licensing,<br>milestone<br>payments and<br>sales royalties |
|  | Exclusive<br>manufacturer of<br>Progenza in Japan     | Funds product<br>development for<br>GMP manufacture<br>for Phase 2<br>Progenza trial |  |   |



# Product Profiles

# Development Pipeline

## Human Health Development Pipeline

| PROGRAM  | TECHNOLOGY PLATFORM                  | PRE-CLINICAL   | PHASE 1 | PHASE 2 | PHASE 3 | APPROVAL |
|----------|--------------------------------------|----------------|---------|---------|---------|----------|
| Progenza | Allogeneic Adipose MSCs & Secretions | Osteoarthritis |         |         |         |          |
|          |                                      | Pain           |         |         |         |          |
| RGSH4K   | Immunotherapy for oncology           | Solid Tumours  |         |         |         |          |
| Sygenus  | Allogeneic Adipose MSC Secretions    | Dermatology    |         |         |         |          |
|          |                                      | Pain           |         |         |         |          |

## Animal Health Development Pipeline

| PROGRAM  | TECHNOLOGY PLATFORM        | MANUFACTURING & PROCESS DEVELOPMENT                         | SAFETY & EFFICACY STUDIES | PIVOTAL TRIAL | MARKET APPROVAL |
|----------|----------------------------|---|---------------------------|---------------|-----------------|
| CryoShot | Allogeneic Adipose MSCs    | Osteoarthritis  |                           |               |                 |
| Kvax     | Immunotherapy for oncology | Naturally Occurring Advanced Cancers (Conditional Approval) |                           |               |                 |

# Progenza

## World Class Stem Cell Platform

Progenza is a patented, scalable, off-the-shelf stem cell technology platform **to treat osteoarthritis and a range of other inflammatory conditions**

### Safe and Scalable

Mesenchymal stem cells (MSCs) are sourced from adipose tissue from healthy adult donor

- High safety and tolerability profile
- Adipose tissue is a readily available source of MSCs – 500x more MSCs than bone marrow per gram
- Scalable: capacity to produce millions of standardized Progenza doses from single donor



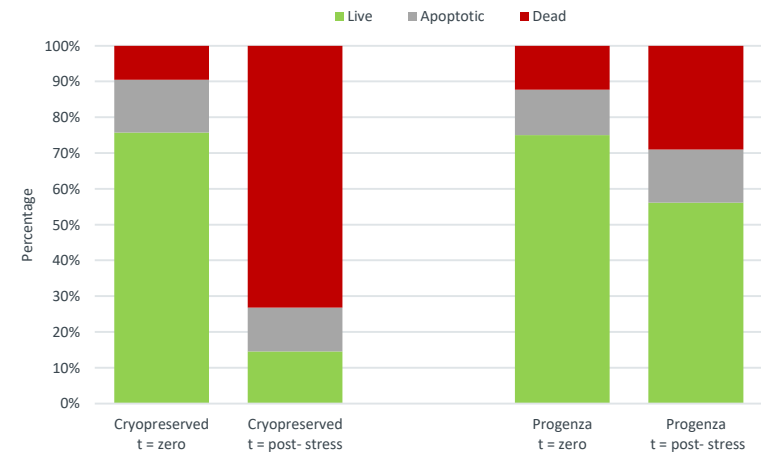
*MSCs (aka medicinal signaling cells) secrete a diverse variety of bioactive factors including cytokines, growth factors, extracellular vesicles and exosomes*

*Secretions respond to the local environment and are the driving force for reducing inflammation, promoting tissue repair and reducing scarring*

### Competitive Advantages

Includes cell secretions with cells:

- Improves the viability, stress resistance and functionality of cells
- Provides protection for cells to improve proliferation post-thawing, compared to cryoprotective solutions
- Minimises cell loss post-thawing and improves cell viability and functionality



# Progenza: Phase 1 Knee Osteoarthritis

## Primary Endpoints Met - Safe and Tolerable

- Progenza at both doses was found to be safe and tolerable
- No serious adverse events occurred
- The majority of adverse events (AEs) were of mild severity
- No meaningful differences between placebo and PRG groups in incidence and nature of adverse events
- No trends or findings of concern were identified
  - from patients' vital signs, laboratory tests, physical examination, ECGs or other safety measurements

- Double-blind, placebo controlled and randomised 20 patient trial
  - Sydney - late 2015 through April 2017 (reported May'17)
- Single intra-articular injection and monitored for 12 months for safety
  - 2 cohorts, placebo (4:1)
- Mean age 53 years (40-64 years)
- Diagnosed with knee OA
  - mild OA 25% Moderate OA 75%

Do you have **KNEE PAIN**  
from osteoarthritis?

Are you between 40 and 65  
years old?

Are you experiencing moderate to  
severe pain in your knees?

Would you consider being a  
participant in a research study using  
a new treatment option?

If so, and if you haven't had surgery on  
your knees in the past 3 years, you may be  
eligible to participate in a research study  
being conducted by some of the doctors at  
this practice.

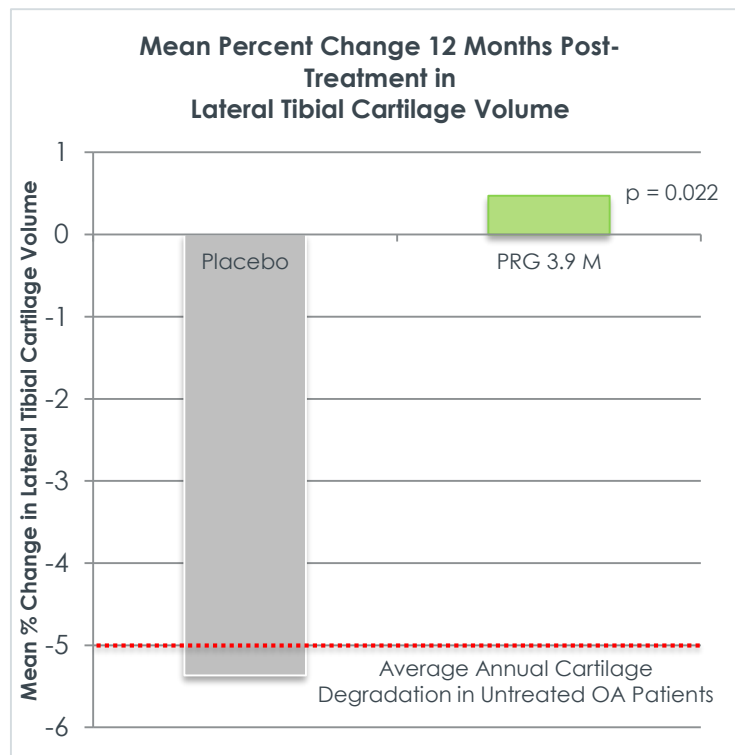
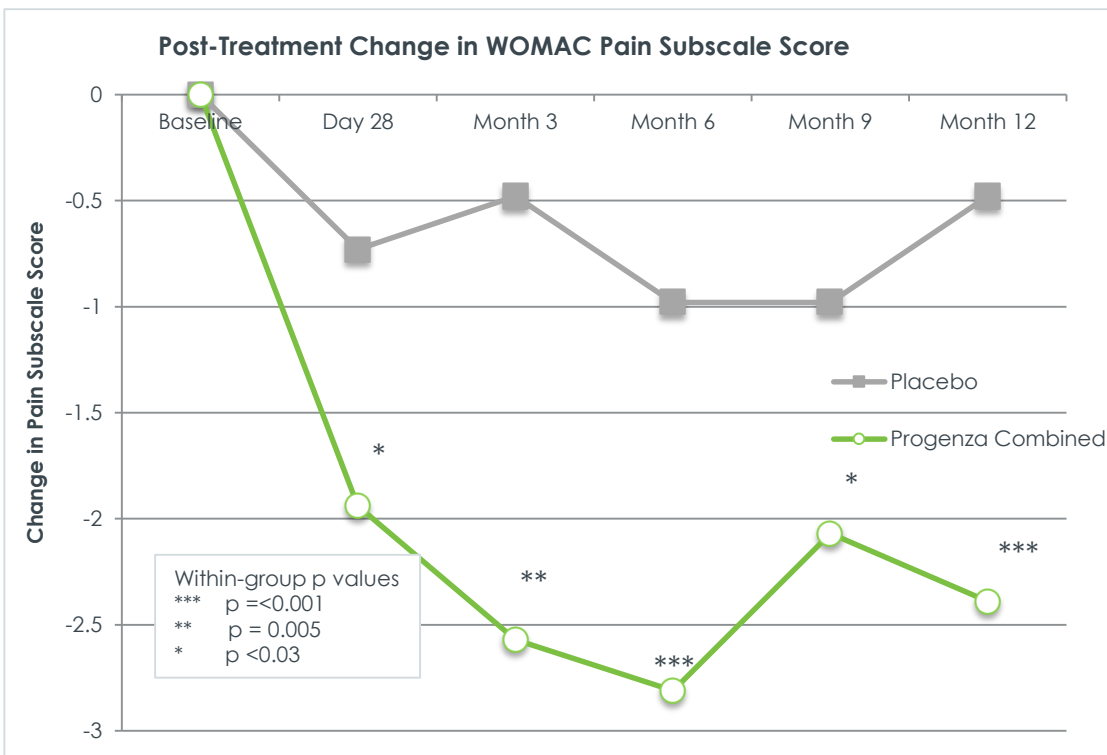
For more information about the study or to register your interest in becoming a  
participant, contact the Clinical Research Nurse Zuzana on [phone number].



# Progenza: Phase 1 Knee Osteoarthritis

## Significant Secondary Endpoints

- Significant reduction in knee pain in Progenza groups - rapid and sustained
- Significant improvement in cartilage volume compared to placebo in target dose
- Positive signs of disease modification



Untreated OA is estimated to lose 5% of Lateral Tibial Cartilage Volume per year

# Progenza

## STEP Trial Data Consistent with Preclinical Results

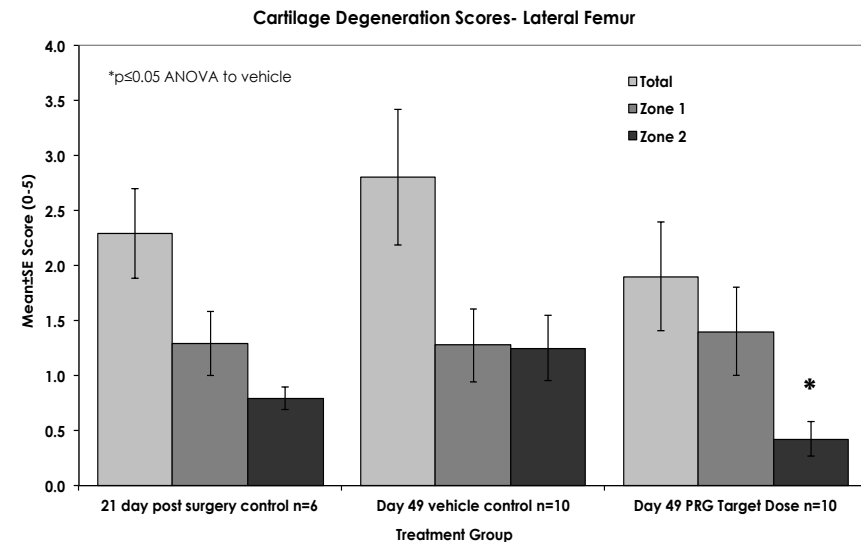
### Safe and tolerable

- No Progenza-related systemic or local toxicities or dose related adverse effects

### Significant Secondary Endpoints

- Significant reduction in cartilage degeneration scores with target dose
  - Middle load bearing femur zone (zone 2)
- No further progression of OA
  - Total degeneration scores in Progenza treated knees 4 weeks post-treatment showed no further progression of OA compared to the pre-treatment control group (21 days post surgery)

- Rabbit Osteoarthritis Model - partial meniscectomy
  - Single Progenza intra-articular injection 21 days post-surgery



Conducted by US-based Pre-clinical Research Services, a degenerative OA model (partial meniscectomy) in rabbits (n=46; 23M, 23F)

### Next steps

- Pursuing licensing of Progenza for clinical development and commercialisation in Japan and ROW
- Targeting Phase 2 Progenza trial for OA in Japan under new cell therapy early access regulations

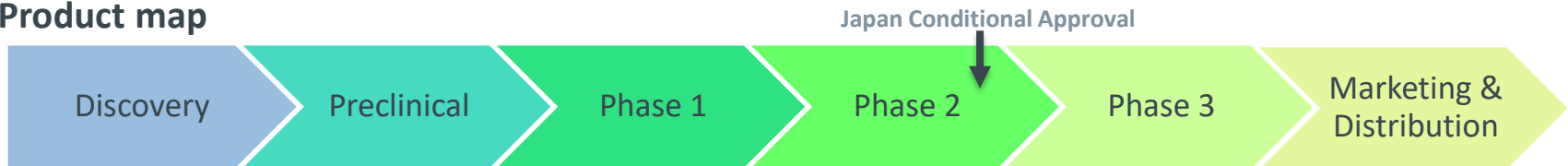
# Progenza

## Multiple Licensing Opportunities

Progenza = Multiple

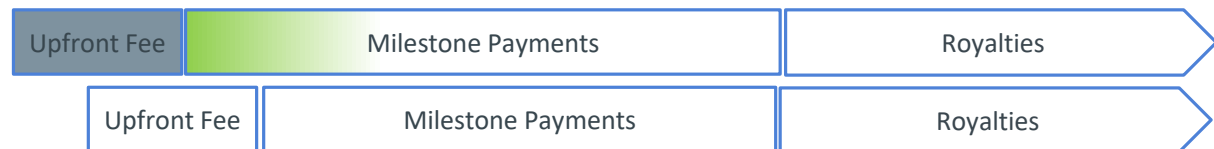
- licensing opportunities
- technology platforms
- jurisdictions

### Product map



### Manufacture licences

- AGC licence for Japan
- US, Europe etc

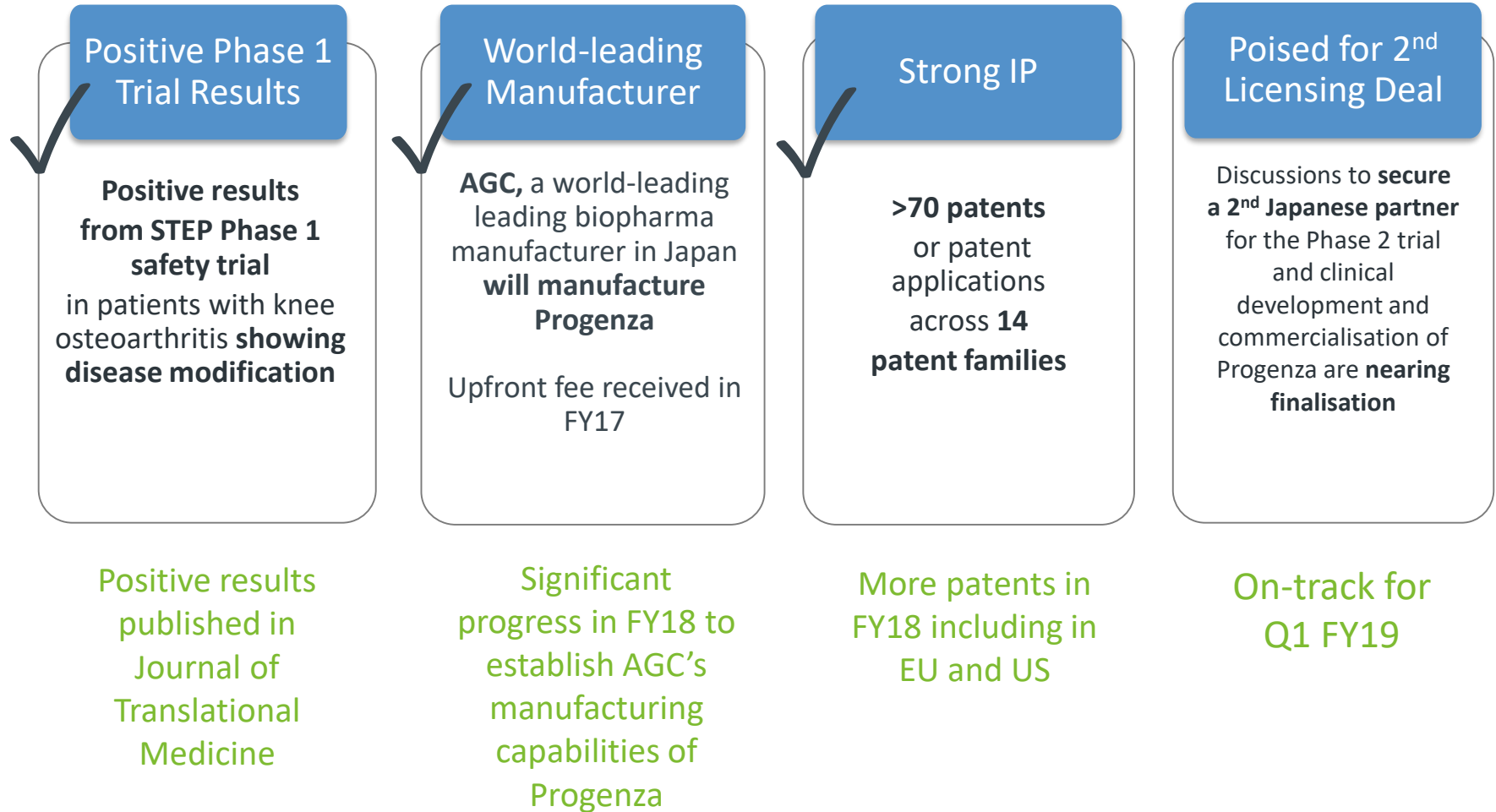


### Clinical development licences

- Osteoarthritis - Japan
- Nerve Pain – Japan
- Osteoarthritis – rest of world



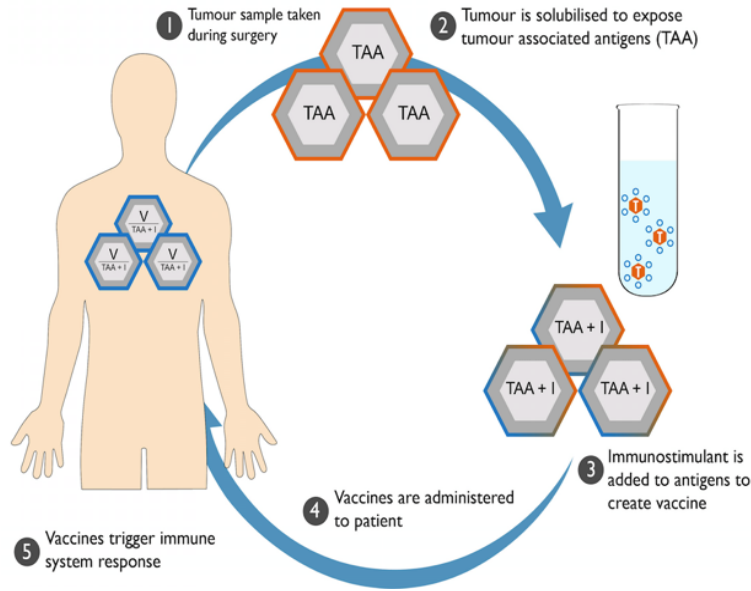
# Progenza: Third-Party Validation





# RGSH4K

## Cancer Immunotherapy Platform



|                                   | Multiple Relevant Antigens | Potent Immunological Response | Ease of manufacture | Safety Profile | Ease of Use | Low COGS |
|-----------------------------------|----------------------------|-------------------------------|---------------------|----------------|-------------|----------|
| <b>AUTOLOGOUS THERAPIES</b>       |                            |                               |                     |                |             |          |
| <b>RGSH4K tumour cell vaccine</b> | ✓                          | ✓                             | ✓                   | ✓              | ✓           | ✓        |
| Dendritic cell vaccine            |                            | ✓                             |                     | ✓              |             |          |
| Peptide vaccine                   |                            |                               | ✓                   | ✓              | ✓           |          |
| <b>ALLOGENEIC THERAPIES</b>       |                            |                               |                     |                |             |          |
| Peptide / HSP vaccine             |                            |                               |                     | ✓              | ✓           |          |
| Oncolytic virus                   |                            | ✓                             | ✓                   | ✓              |             |          |
| Gene transfer                     |                            | ✓                             | ✓                   |                | ✓           |          |

- Autologous cancer immunotherapy
  - Uses patient's own tumour as source coupled with a bacterial adjuvant
- Addresses tumour heterogeneity as all relevant tumour associated antigens are included
- Immune memory may be effective in reducing risk of tumour recurrence
- Straightforward and rapid manufacturing process
- Multi-tumour type potential

# RGSH4K - Update on Phase 1

## Study for solid tumours – **ACTIVATE Trial**

- Single centre, open label, first-in-human Phase 1 study to evaluate the safety and tolerability
- 12 patients, received RGSH4K in 3 dose cohorts
  - Various advanced solid tumours, heavily pre-treated with chemotherapy or radiotherapy
- 3 vaccines were administered at 3-week intervals, and patients had the option to continue dosing in an extension phase
- All dose levels were safe and well tolerated, achieving the safety primary endpoint
  - There were no dose limiting toxicities and no serious adverse events related to the vaccine
  - Injection site reactions were the most common adverse event related to RGSH4K administration
- RGSH4K also showed encouraging signs of immune stimulation in some patients, as demonstrated by changes in cancer markers, immune cells and cytokines
- This immune stimulation was seen in one or more patients at all three dose levels
- Preliminary indications of anti-tumour activity were seen in some patients however long term follow up on 50% of the patients continues



# Sygenus: Emerging MSC Secretions Technology Platform

Sygenus is an allogeneic adipose MSC secretions-based technology platform

MSCs secrete a diverse variety of bioactive factors including cytokines, growth factors, extracellular vesicles and exosomes

- **3 main therapeutic effects**

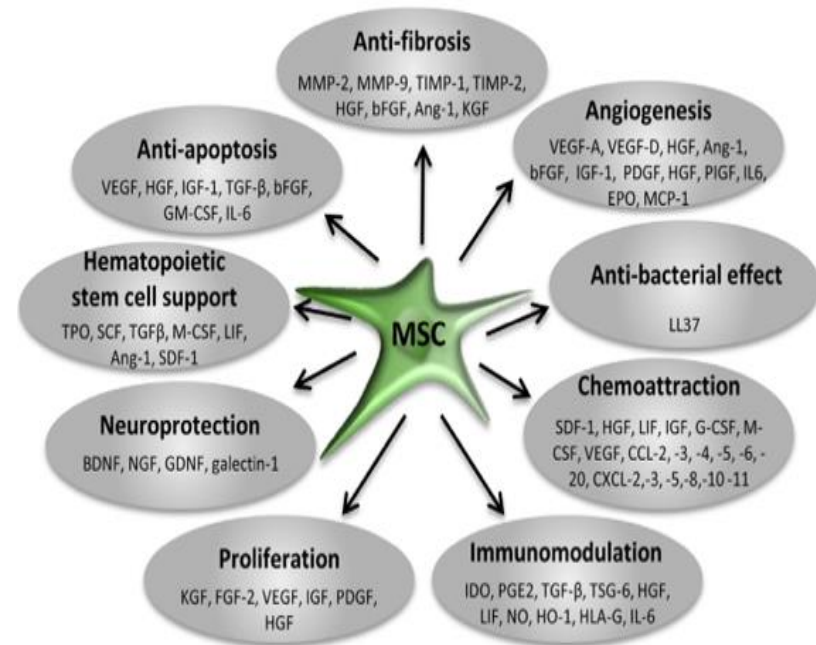
- reduce pain and inflammation;
- promote tissue repair; and
- reduce scarring

- Potential to **treat a wide range of inflammatory conditions and pain** where using cells is not an appropriate solution

- **Various forms of administration** such as topical, injection and potentially aerosol

- **Scalable technology:** easy to prepare and handle for off-the-shelf use

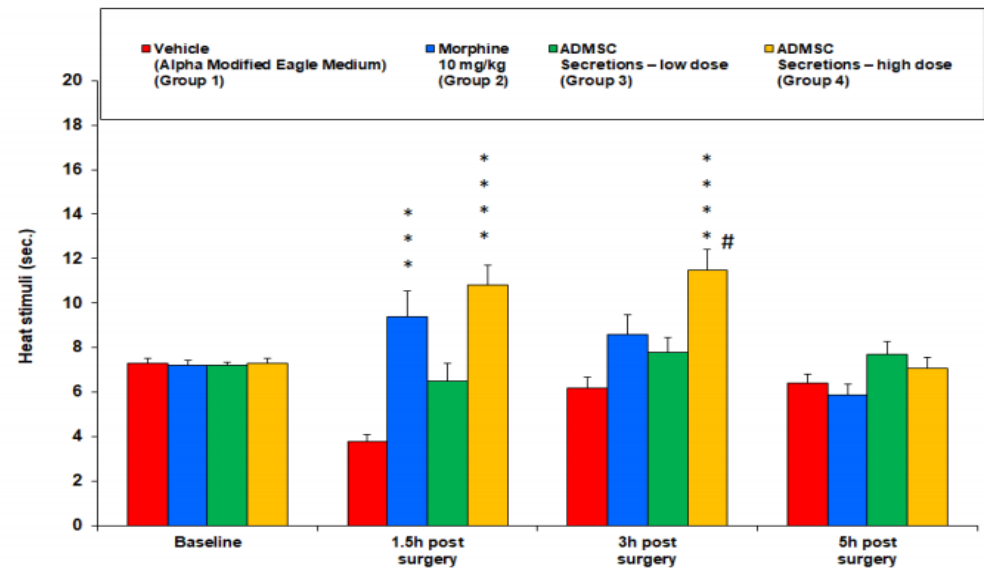
- **R&D focus** on topical applications for acne and other inflammatory skin conditions, pain and wound healing



# Sygenus Shows Promise in Pain Model v Morphine

## Significantly Greater and Longer Lasting Analgesic Effect

- Topical application of Sygenus in post-operative pain model shows significantly greater and longer lasting analgesic effect than a standardised dose of morphine
- Effect is above and beyond the anti-inflammatory effect observed with MSCs and secretions
- Powerful dose dependent response
- Results feed into ARC linkage research program with Adelaide and Macquarie Universities on pain
- Translate into clinical neuropathic pain studies



**Figure 3: Mean group response to Hot plate test.**

\*\*\*  $p < 0.001$  vs. Vehicle using one-way ANOVA followed by Tukey test.

\*\*\*\*  $p < 0.0001$  vs. Vehicle using one-way ANOVA followed by Tukey test.

#  $p < 0.05$  vs. Morphine using one-way ANOVA followed by Tukey test.

# Kvax - Canine Cancer Vaccine

## Safety Study Results

>100 dogs treated    17 different tumour types    No safety concerns

71% exceeded survival time up to 22 months  
(at Census, 25 dogs)

## Osteosarcoma Study Results

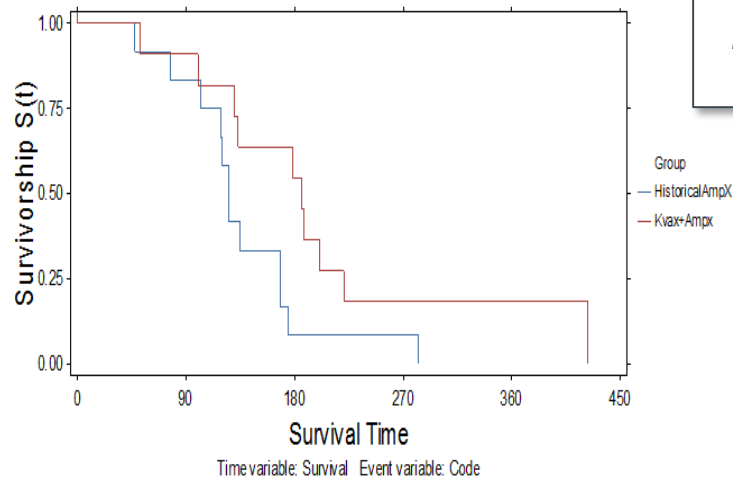
- Canine clinical trial complete
- Led by Dr Bergman of VCA, the largest US vet services group
- Single arm, Kvax only

## B-Cell Lymphoma Study Ongoing

- Study initiated at the Small Animal Specialist Hospital in Sydney
- Placebo controlled with standard of care chemotherapy



Kaplan-Meier PL Survivorship Function

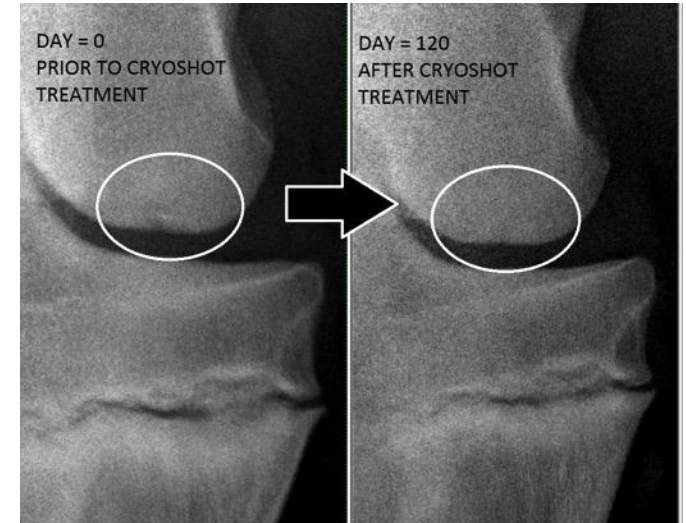


*"Kvax after amputation is well tolerated and appears to confer increased progression free interval and survival compared to historically reported dogs with osteosarcoma treated with limb amputation only"*

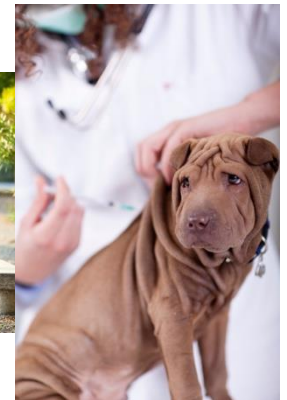


# CryoShot: Allogeneic Stem Cell Platform

- Leading in-field, practical experience with allogeneic MSCs in the veterinary field globally
  - >90 vet practices involved
  - 5,000+ field trial treatments
- Better pain relief than NSAIDs in uncontrolled studies for osteoarthritis in dogs
- Improved interim clinical results on early orthopaedic developmental disease in yearling thoroughbreds



|   | Activity / Milestone   |
|---|--|
| ✓ | Signed collaboration with top Animal Health Pharma to partner development and commercialisation of CryoShot Canine |
| ✓ | Commenced pre pivotal dog trial at University of Pennsylvania for osteoarthritis (currently >50% complete)         |
|   | Last patient last visit  |
|   | Analysis and final report  |



# Value Creation Catalysts

Targeting 2<sup>nd</sup> Progenza licence following successful monetisation of 1<sup>st</sup> Progenza licence in Japan

