

About Starpharma

- ASX300 company (ASX:SPL) and (OTCQX:SPHRY)
 - Three business areas: DEP™ drug delivery platform, VivaGel® and Agrochemicals supporting a deep portfolio of products under development or on market
- <u>DEP™ drug delivery platform</u> has the potential to produce a portfolio of new DEP™ products with multiple revenue streams
 - Multi product DEP™ license with AstraZeneca valued up to US\$126M in milestones plus royalties (first product) and up to US\$93M plus royalties for subsequent products
 - DEP™ docetaxel and internal DEP™ pipeline has potential to deliver multiple and high value additional deals
 - DEP[™] based partnered programs in place and under discussion with multiple leading pharmaceutical companies including new program for a product in AZ's portfolio
- <u>VivaGel® portfolio</u> focused on women's and sexual health
 - VivaGel® condom launched in Australia with further approvals and launches to follow
 - VivaGel® BV Two products for Bacterial Vaginosis – first approved in Europe, second in phase 3 clinical trial
- <u>Agrochemical program</u> based on SPL's novel dendrimer technology with extensive commercial partnerships plus internal programs

Starpharmas DEP™ platform: polylysine dendrimers

DEP™ dendrimer

- · Precisely manufactured poly-lysine dendrimer
- · Manufactured using standard chemistry
- Dendrimer size easily scalable to deliver desired payload number

PFG

- PEG length variable to meet requirement
- Provides stealth; control clearance

Drug/Payload

- · Can deliver any type of payload
- · Cytotoxic or Ultratoxic
- payload number per DEP™ molecule easily scaled

Linkers

- · Linker strategy tailored to meet drug release requirements
- Enzymatic; protease; pH; reducing; stable etc

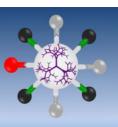
Targeting

- Flexibility in targeting molecule
- Ab; Ab fragment; Non-Ab ligand; Small molecule
- Site Specific attachment of DEP™ (single/multiple) on targeting moiety

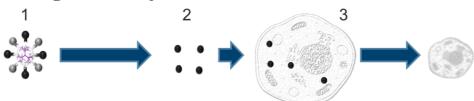
DEP™ platform: Benefits

Standard Drugs DEP™ Drugs **Maximum Tolerated Dose** Controlled release Lower Cmax; Higher AUC Maximum **Tolerated Dose THERAPEUTIC Enhanced Drug Properties** THERAPEUTIC WINDOW PK/PD/Solubility **WINDOW Minimum Effective** Tumour Accumulation Active or Passive targeting Dose **Minimum Effective Dose**

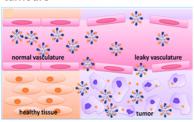
- Expanded therapeutic window by:
 - Improved efficacy
 - Tumour targeting and reduction/elimination of dose related toxicities
 - Extended plasma half life reduces drug elimination and provides greater exposure to drug – may also provide opportunity for less frequent dosing
- Simplified handling and dosing due to increase in solubility with no excipients (e.g. Polysorbate 80) required
- Product lifecycle management



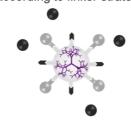
Passive Drug delivery



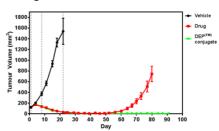
1: Preferential accumulation of drug loaded DEP™ conjugates in tumours



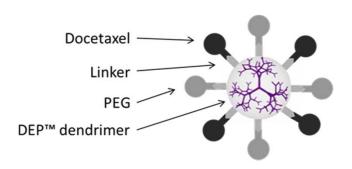
2: Drug is released in tumour from DEP™ backbone according to linker strategy



3: Drug enters tumour cells inducing cell death and tumour regression



DEP™ docetaxel - Preclinical



DEP™ docetaxel clinical

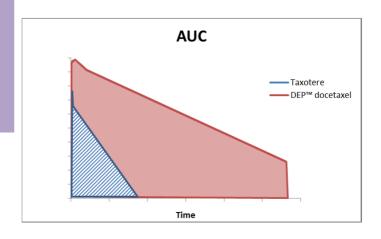
Phase 1:

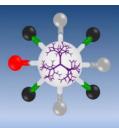
- Open label study, 25-30 cancer patients
- DEP™ docetaxel administered intravenously (no steroid pre-treatment is required)
- No neutropenia (docetaxel DLT) or alopecia reported compared to severe neutropenia suffered by 75% of patients given Taxotere®
- A significant proportion of DEP[™] docetaxel patients have exhibited efficacy signals/anticancer activity including at relatively low doses (20mg/m²) in tumours incl. prostate, lung, H&N, gastro-oesophageal, glioblastoma
- Enhanced pharmacokinetics (longer half-life, higher AUC and lower Cmax)

DEP™ docetaxel vs. Taxotere®

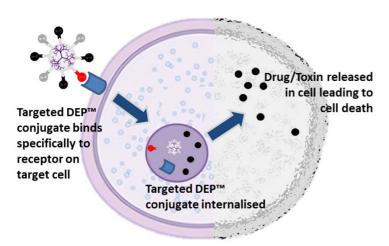
- 1. Elimination of major dose-limiting side effect (neutropenia)
- 2. Detergent-free formulation (less toxic)
- 3. Tumour-targeting (40-70x more)
- 4. Extended duration (half-life)
- 5. Improved efficacy (breast, ovarian, prostate)

Note: Similar results have been observed in pre-clinical models with other cytotoxic drugs including cabazitaxel and others





Targeted DEP™ Drug Delivery



Starpharma's targeted DEP™ conjugates provide;

- Greater homogeneity
- High affinity
- Site specific attachment of drug conjugate
- Attachment of multiple drug loaded dendrimers
- The delivery of significantly higher payload levels than conventional ADC's

<u>Preclinical study to evaluate the efficacy of HER-2 targeted DEP™ conjugates</u> against ovarian cancer xenografts

Method:

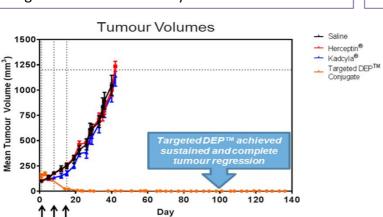
- SKOV-3 tumour model in NOD SCID mice
- s.c. implantation
- Allow tumor to grow to >100mm³
- Treatment groups

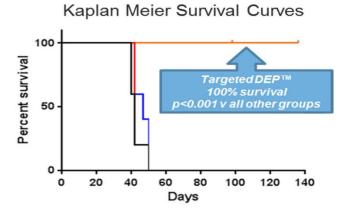
Targeted DEP™ dosing days 1,8,15

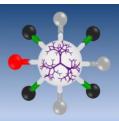
- Vehicle*,
- Ab Targeted DEP™ drug conjugates
- Kadcyla [10mg/kg*]
- Herceptin [30mg/kg bi-weekly for 3 weeks]
- * Weekly (days 1, 8 and 15) via iv route for 3 weeks at 0.1ml/10g body weight
- 6 animals/group; Measurement of tumour growth 2-3 times weekly

Results:

- SPL's novel antibody-targeted DEP™ conjugate resulted in complete tumour regression and 100% survival in an ovarian cancer model
- The antibody-targeted DEP[™] conjugate (using Herceptin as the targeting group) significantly outperformed both Roche's Kadcyla® (T-DM1) and the monoclonal antibody Herceptin® (Trastuzumab) alone
- Targeted DEP™ of significant commercial interest in partnering; patent filings underway







DEP™

Therapeutic and Commercial Proposition

Starpharma's DEP™ platform is unique in its flexibility, and it provides the ability to;

- Enhance the therapeutic utility of existing drugs or NCE's through Improved efficacy, tumour targeting, reduction/elimination of dose related toxicities, enhanced PK and solubility
- Develop targeted therapies with homogeneity in structure (easier characterisation and manufacturing) and high payload to targeting moiety ratio. The DEP™ platform is a step above conventional ADC approaches and other nanotechnologies.

The DEP™ platform is a highly versatile platform with significant commercial and therapeutic benefits

| Therapeutic Benefits | Flexible platform with broad applicability in targeted therapies | ✓ |
|-------------------------|---|----------|
| | Greater homogeneity with higher payload ratio than conventional ADC approaches | ✓ |
| | Enhanced drug properties – increased solubility; enhanced PK and efficacy; better side effect profile | ✓ |
| | Enhanced therapeutic window | ✓ |
| Commercial Benefits | Patent Protection | ✓ |
| | Innovative treatment options | ✓ |
| | Competitive advantages | ✓ |
| | Robust, scalable manufacturing and logistics | ✓ |

Patents

Starpharma holds a dominant position in the dendrimer IP landscape with a wide portfolio of patents and patent applications covering the composition and application of dendrimers in pharmaceutical, life-science and other fields.

Patents are granted or pending in major markets.

Contacts

Licensing and Partnerships

tony.eglezos@starpharma.com vanessa.waddell@starpharma.com

Investor Relations

investor.relations@starpharma.com

Starpharma Pty Limited
4-6 Southampton Crescent,
Abbotsford
VIC 3067
AUSTRALIA

T: +61 3 8532 2700 F: +61 3 9510 5955

W: www.starpharma.com



@starpharma_ASX

Disclaimer: This brochure has been compiled to establish potential interest prior to a more detailed exchange of information. The document has been prepared in good faith but is provided without warranty or any other representation