



## Starpharma presents to institutional investors at ASX Small to Mid Caps conference in Hong Kong

**Melbourne, Australia; 20 October 2010:** Starpharma Holdings Limited (ASX:SPL, OTCQX:SPHRY) is one of 20 Australian companies, and one of only two Biotechs, selected to present at the third annual ASX Small to Mid Caps conference in Hong Kong tomorrow.

The ASX Hong Kong conference is part of a series of international investor events designed to showcase emerging Australian small and mid-cap listed companies to investors in Asia, Europe and the US. In May 2010, Starpharma participated in a similar ASX event in Singapore.

Presenting to more than 195 international investors, Starpharma CEO Dr Jackie Fairley will outline the Company's lead pharmaceutical development, VivaGel<sup>®</sup> – a microbicide gel for the prevention of sexually transmitted infections (STIs) including HIV and genital herpes, and the Company's major deal with SSL International plc – together with the wider range of applications for its dendrimer technology platform including agrochemicals and drug delivery.

Dr Fairley's presentation details recent developments in Starpharma's clinical trial program and partnering activities, including a range of commercial partnerships with major companies including Lilly, SSL International, Siemen's Healthcare, GSK and Elanco. A copy of Dr Fairley's slide presentation is attached.

The ASX conference involves emerging Australian companies with market capitalisations of up to AU\$1.6 billion, and a combined market cap of approximately AU\$11.76 billion.

In addition, Starpharma is this week participating in the AusBiotech National Conference in Melbourne and attended by companies such as Merck, GlaxoSmithKline, Roche and Pfizer.

Dr Fairley presented to more than 150 investors at the Australasian Life Science Investment Summit ahead of the conference, and other executives of the company are actively involved in partnering discussions with a number of delegates over the next few days.

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### About Starpharma

Starpharma Holdings Limited (ASX:SPL, OTCQX:SPHRY) is a world leader in the development of dendrimer technology for pharmaceutical, life-science and other applications. SPL has two operating companies, Starpharma Pty Ltd in Melbourne, Australia and DNT, Inc in the USA. Products based on SPL's dendrimer technology are already on the market in the form of diagnostic elements and laboratory reagents through licence arrangements with partners including Siemens and Merck KgA.

The Company's lead pharmaceutical development product is VivaGel<sup>®</sup> (SPL7013 Gel), a vaginal microbicide designed to prevent the transmission of STIs, including HIV and genital herpes. In September 2008 Starpharma signed a full licence agreement with SSL International plc (LSE:SSL) to develop a VivaGel<sup>®</sup> coated condom. SSL manufactures and sells Durex<sup>®</sup> condoms, the market-leading condom brand worldwide.

Starpharma also has agreements in place with Lilly, Elanco, Stiefel Laboratories (a GSK Company), and Unilever as well as many research collaborations with some of the world's leading organisations.

**Dendrimer:** A type of precisely-defined, branched nanoparticle. Dendrimers have applications in the medical, electronics, chemicals and materials industries.

**American Depositary Receipts (ADRs):** Starpharma's ADRs trade under the code **SPHRY** (CUSIP number 855563102). Each Starpharma ADR is equivalent to 10 ordinary shares of Starpharma as traded on the Australian Securities Exchange

(ASX). The Bank of New York Mellon is the depository bank. Starpharma's ADRs are listed on International OTCQX, a premium market tier in the U.S. for international exchange-listed companies, operated by Pink OTC Markets, Inc.

**Forward Looking Statements**

This document contains certain forward-looking statements, relating to Starpharma's business, which can be identified by the use of forward-looking terminology such as "promising", "plans", "anticipated", "will", "project", "believe", "forecast", "expected", "estimated", "targeting", "aiming", "set to", "potential", "seeking to", "goal", "could provide", "intends", "is being developed", "could be", "on track", or similar expressions, or by express or implied discussions regarding potential filings or marketing approvals, or potential future sales of product candidates. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no assurance that any existing or future regulatory filings will satisfy the FDA's and other health authorities' requirements regarding any one or more product candidates nor can there be any assurance that such product candidates will be approved by any health authorities for sale in any market or that they will reach any particular level of sales. In particular, management's expectations regarding the approval and commercialization of the product candidates could be affected by, among other things, unexpected clinical trial results, including additional analysis of existing clinical data, and new clinical data; unexpected regulatory actions or delays, or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry, and general public pricing pressures; and additional factors that involve significant risks and uncertainties about our products, product candidates, financial results and business prospects. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated or expected. Starpharma is providing this information as of the date of this document and does not assume any obligation to update any forward-looking statements contained in this document as a result of new information, future events or developments or otherwise.

**For further information:**

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# Starpharma Holdings Limited

ASX:SPL  
OTCQX:SPHRY

**ASX Small to Mid Caps Conference**

**Hong Kong  
21 October 2010**

Dr Jackie Fairley, CEO



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## Starpharma Holdings Limited - ASX:SPL

### Investment Summary

*Starpharma is a leader in the development of proprietary dendrimers (highly branched polymers) for pharmaceutical and life-science applications*

- **Attractive commercial partnership for VivaGel® condom coating**
  - VivaGel® Condom Coating licensed to SSL (under bid by Reckitt Benckiser)
  - royalty revenues expected to commence in CY11
- **Lead product VivaGel® completing mid-stage clinical trials:**
  - Gel to protect women from sexually transmitted infections (HIV, HSV-2, HPV, bacterial vaginosis)
  - in Phase 2 clinical development ; >US\$26M NIH support
- **Multiple partnerships already in place for Starpharma's dendrimers:**
  - Drug delivery (Lilly, Elanco, GSK/Stiefel)
  - Medical technology (Siemens, Aldrich, Merck, Qiagen)
  - Agrochemical deal with multi-billion dollar US Co.
  - Other opportunities: Industrial, cosmetic, water treatment

15 October 2010

ASX Code	SPL
Share Price SPL AUD	56c
52 Week Range AUD	44-78c
Shares on Issue	239.4M
Market Capitalisation AUD	~ \$134M
Average Mthly Volume: ASX	~ 6.1M shares
Average Mthly Volume: OTCQX (Code: SPHRY)	~ 1M shares
Cash (AUD) 30/06/10	\$22.8M
Major Shareholders	Acorn Capital Orbis Dow



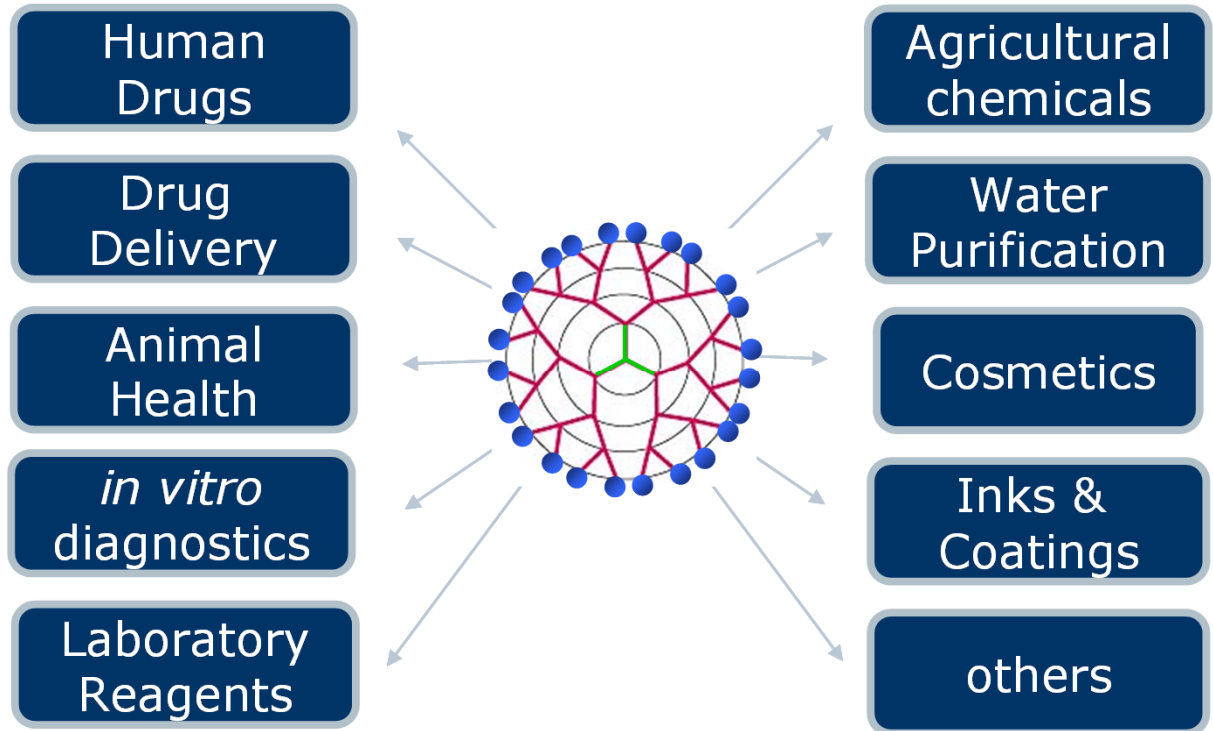
## Dendrimers – A Versatile “Platform” Technology

*“SPL is one of the few companies in Australian biotechnology sector that has what we consider to be a true technology platform which can be used for a wide range of healthcare and industrial applications.”*

*Shaw Stockbroking, 9 Dec 2009*

*“Starpharma provides excellent exposure to the biotech sector, without the development and expenditure risks attributable to late stage therapeutic players.”*

*Taylor Collison, 23 Mar 2010*



Starpharma’s dendrimers are highly branched polymers with versatile commercial applications



## Starpharma's Commercial Partnerships

Starpharma - partnering with market-leading companies



### VivaGel®

Co-development deal for Condom Coating



### Dendrimers for Drug Delivery

Lilly, Elanco, Stiefel (GSK); Drug delivery collaborations



### Stratus CS®

Various diagnostics licensed to Siemens Healthcare (Dade Behring)



### SuperFect®

Gene transfection technology licensed to Qiagen



### Starburst®

Dendrimers commercially available via Sigma Aldrich



Prioject® : siRNA & DNA transfection reagents



## VivaGel® - 2 Products: Anti-viral Condom Coating and Microbicide Gel

### VivaGel®-Coated Condom



Condom coated with patented antiviral  
- inactivates viral STIs  
(HIV, Herpes, HPV)

Licensed to SSL International  
(under bid by Reckitt Benckiser)



Combination Product  
(Device Branch review)

### VivaGel®



Topical Microbicide Gel  
- for the prevention of  
viral STIs (HIV, Herpes, HPV)

In-house development,  
late stage license

Standard Pharmaceutical;  
FDA Fast Track

**Product**

**Commercialization  
Strategy**

**Regulatory path**





*"innovation is key to SSL's strategy to keep sales growing and consumers interested.."*  
SSL CEO Garry Watts

## VivaGel® Condom Coating License Agreement with Durex®

### ▪ Starpharma to receive:

- royalties on SSL sales
- milestones
- development assistance

### ▪ Value to Starpharma:

- **Estimated receipts in excess of A\$100m**
- Nearer term revenue potential (device route)
- **Enhancement of VivaGel® brand**
- Commercial validation of VivaGel® and microbicides

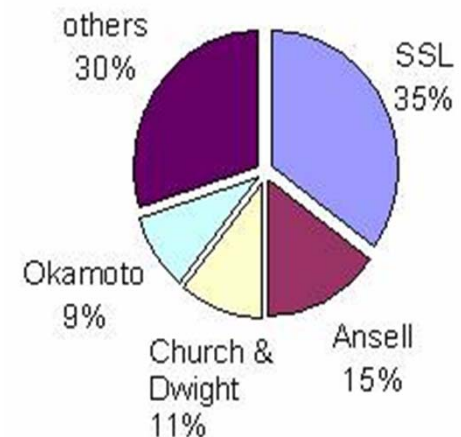
### ▪ SSL International plc to market globally

- Global consumer product company (**LSE:SSL**) Mkt. Cap GBP1.7 billion
- Major brands include **Durex® and Scholl®**
- **Durex® is No. 1 condom brand globally**
- **~40-42%** of global branded condom market; aggressively building share and capacity, including Russia and China

### Condom Market - prior to SSL Russian Acquisition

Total Sales: US\$3.26B (2006)  
Top 4 sales: 70% of total  
Sales Growth: 4-5% annually

**Chief Factor in growth:**  
awareness of AIDS and STIs



source: "Condoms - a global strategic business report 2005"

Condoms represent a US\$3.26B market; VivaGel® coating offers a premium product



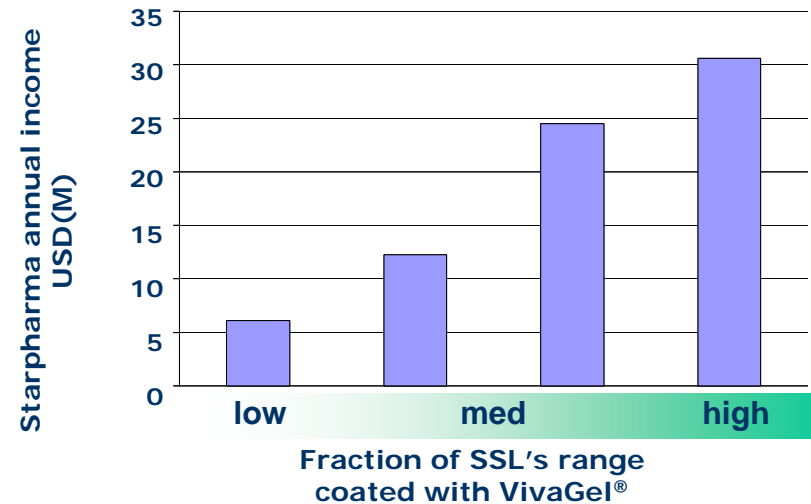
## VivaGel<sup>®</sup>-Coated Condom

Licensed to SSL International, owners of Durex<sup>®</sup> the leading global condom brand



- Early opportunity
- Anti-viral Condom Coating
- >>A\$100m (est.) license & royalties
- Combination Product (Device Branch review)

### Starpharma Income Scenarios



#### Key Assumptions:

- Global Branded Condom Market est: US\$1.1 - \$1.7 B
- SSL Global market Share 40 -42%
- Market Growth Rate pa. 5%
- Patent expiry 2027 (excl. extensions)

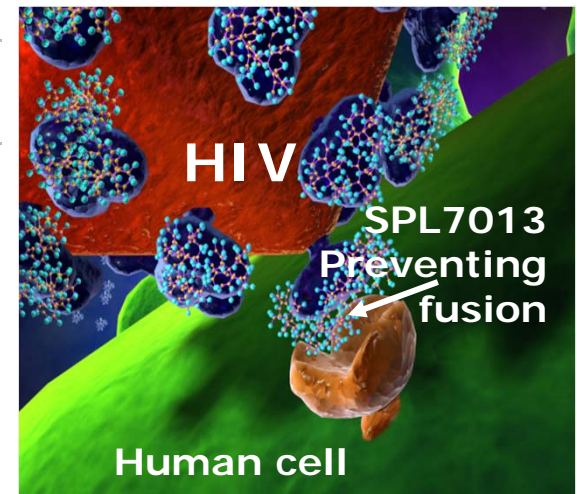
#### Potential upsides (not included):

- Further SSL market share growth
- Market growth > 5%



## VivaGel® - Microbicide for the Prevention of HIV and Genital Herpes

Product	Topical vaginal microbicide
Indications:	Under development: Prevention of STIs in women <b>Phase 2 (IND): HIV, genital herpes (HSV-2) and Bacterial Vaginosis</b>
Presentation:	Applicator delivered Gel
Active:	Pharmaceutical grade Dendrimer (SPL7013)
Mechanism:	Dendrimer <b>inactivates HIV and HSV-2</b> Binds to receptors on the virus; blocks cell entry
Motivation:	<b>Vaccines ineffective; condoms not widely used</b>
Other:	<b>FDA Fast Track Status; More than \$26M NIH support</b> Highly active in HIV & Herpes in stringent animal models <b>Potent Activity in humans to 24 hours</b> Activity in <b>HPV</b> and <b>bacterial vaginosis</b> ; other pathogens under investigation; contraceptive activity in animals Global patent coverage to 2027





## Commercial Opportunity for Microbicides

Genital Herpes an important health issue and key driver

### Genital Herpes: a major health issue in the USA and Europe

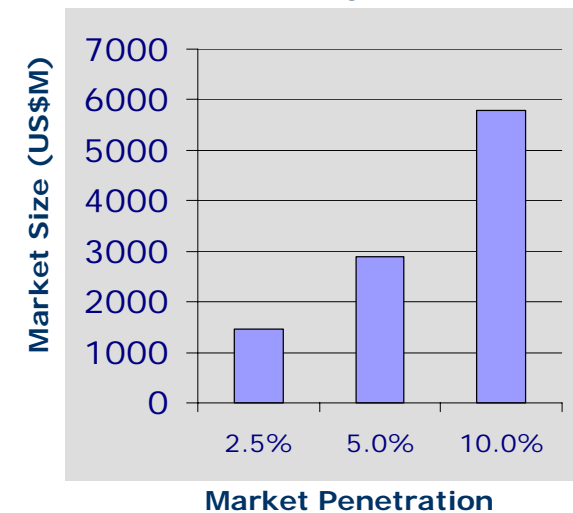
- Affects >50 million Americans today ; 26% women in the USA and 15-20% adults in Europe
- 40-50% of women in the U.S. by 2025 (estimated)
- Recurrent, lifelong viral infection;
- Herpes infected individuals 6-8x increased risk of HIV
- Alternative prevention options are limited; vaccines ineffective
- VivaGel® is the only microbicide being developed for Herpes prevention



### Industry surveys confirm strong consumer demand for microbicides

- 30 - 40% of female US college students would buy a microbicide effective against STIs
- Other studies: >20 million women in US would use a microbicide

Estimated Market\* for Microbicides in Developed Countries only



Independent Microbicide market estimates: \$1.5-6 Billion

Source: World Bank; UNAIDS; EC AIDS survey; BCG analysis, various analyst and microbicide publications;

\*Key assumptions: 291m women of reproductive age (15-49) in developed countries Unit sale price ~ US\$2; Usage rates according to published data



## VivaGel<sup>®</sup>: Human Papilloma Virus (HPV) Activity

VivaGel<sup>®</sup> has broad activity in HPV strains not currently addressed by existing vaccines

	HPV-5	HPV-6	HPV-11	HPV-16	HPV-18	HPV-31	HPV-45
<b>Genital warts</b>	Cutaneous infection	✓	✓				
<b>Cervical Carcinoma</b>				✓	✓	✓	✓
<b>Gardasil<sup>®</sup></b> (CSL/Merck)	✗	✓	✓	✓	✓	✗	✗
<b>Cervarix<sup>®</sup></b> GSK	✗	✗	✗	✓	✓	✗	✗
<b>VivaGel<sup>®</sup></b> SPL7013*	✓	✓	✓	✓	✓	✓	✓

\* In-vitro results obtained at NCI and University of Queensland



## VivaGel® - Bacterial Vaginosis (BV) –Treatment and Prevention of Recurrence

### An Attractive Commercial Opportunity

- The most common vaginal infection worldwide
  - 21 million women infected with BV in US, (as high as 51% in certain demographics);
  - Causes unpleasant discharge, increased risk STIs, linked to preterm birth
  - Global market for *topical* BV treatments alone: approx. US\$300-350M
  - Shortcomings amongst current antibiotic treatments:
    - Low cure rates < 50% and high rate of recurrence
    - Adverse effects: toxicity, reaction with alcohol, incompatibility with condoms
- 
- VivaGel® clinical safety trials showed BV resolution in a number of human participants
  - Lab tests show desirable differential action between normal flora (*Lactobacilli spp.*) & pathogenic bacteria (*G. vaginalis, Bacteroides, Prevotella.*)
  - Phase 2 Trial for VivaGel® BV treatment underway; prevention of recurrence and Phase 3 planned



## VivaGel® - Anti-viral Condom Coating and Microbicide Gel

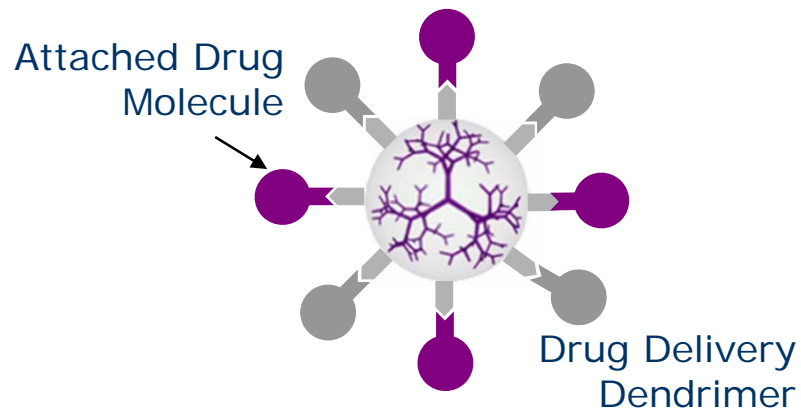
Product	Indication	Regulatory Path	Market Potential USD
VivaGel® Standalone Gel	STI (HIV/HSV2) Prevention Phase 2	Drug	\$3-6Bi <sup>1</sup>
VivaGel® Standalone Gel	BV treatment (& prevention) Phase 2	Drug	\$300-350M <sup>1</sup>
VivaGel® Coated Condom	Antiviral coating	Drug/Device combination	\$1.1 - \$1.7 Bi <sup>1</sup>

1: World Bank; UNAIDs; EC AIDS survey; various analyst and microbicide publications; industry reports and accounts of industry participants; SSL Annual Reports and condom industry data



## Dendrimers for Drug Delivery

Advantages can include - efficacy, reduced toxicity, less frequent dosing and new patent life



### Capabilities of Starpharma's Technology include:

- ♦ Improved efficacy of drugs
- ♦ Extension of drug half-life
- ♦ Reduced toxicity
- ♦ Active or passive targeting (e.g. EPR\*)
- ♦ Product lifecycle management
- ♦ Improved solubility of drugs
- ♦ Drug "rescue"

\*enhanced permeability & retention effect

### Starpharma's Delivery Partnerships:

- Eli Lilly and Company – human pharmaceuticals
- Stiefel Labs. Inc (a GSK company) – Dermal
- Lilly's Animal Health Division , Elanco
- Various additional, early stage

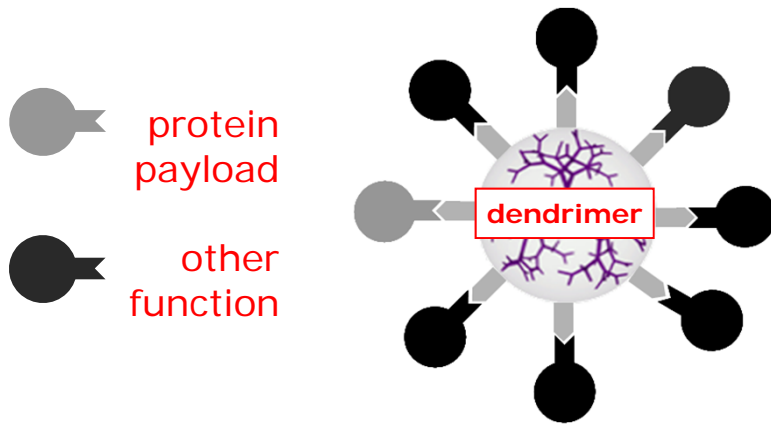




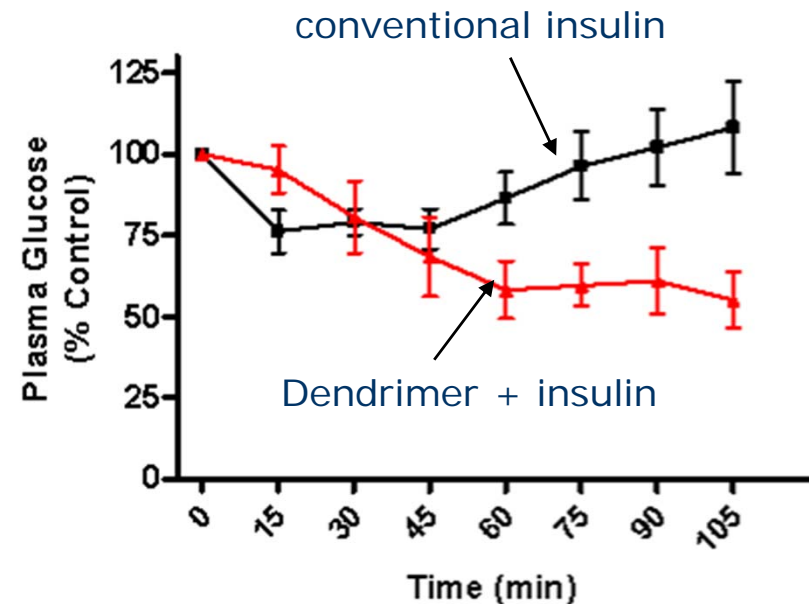


# Dendrimers for Drug Delivery - Proteins and Peptide Drugs

Longer half life – less frequent dosing



*In vivo* mouse model



**Approach**

Conjugate protein or peptide to functionalised dendrimer

**Benefit**

- Control half life of protein or peptide therapeutics
- Improve dosing regimen
- Reduce protein metabolism

**Status**

*in vivo* using insulin for proof of concept **achieved**

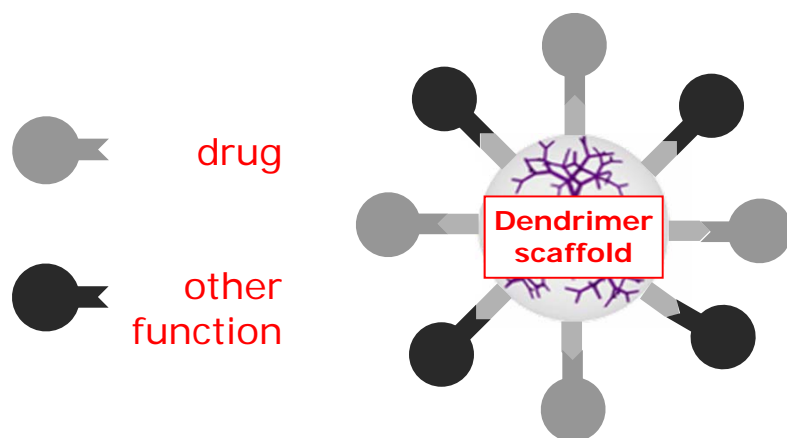
Co-development program with undisclosed partner

Dendrimer insulin shows prolonged suppression of blood glucose *in vivo*

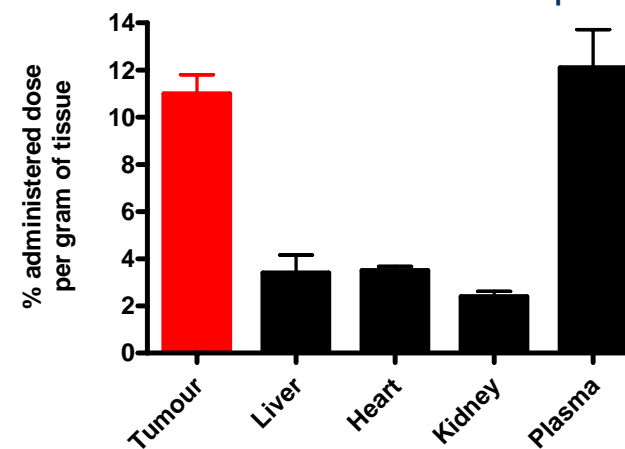


## Small Molecule Drug Delivery

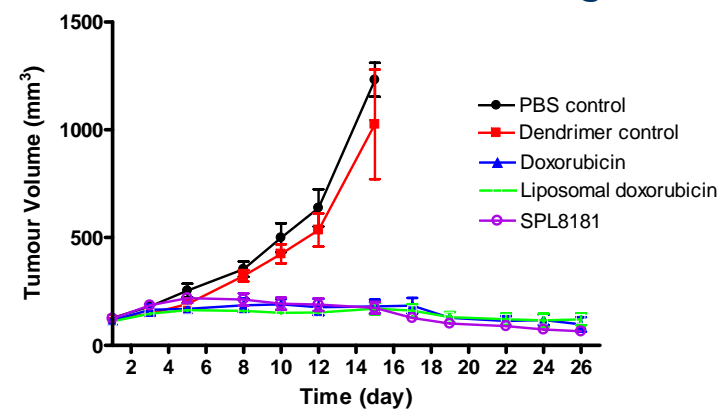
Efficacy - with reduced toxicity



### Mouse Tissue Deposition



### Breast Cancer Xenograft

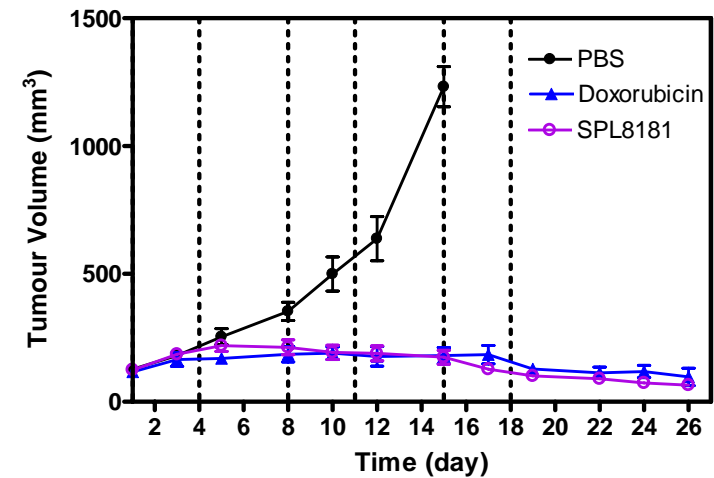
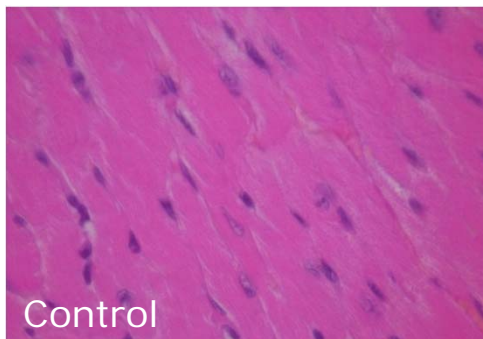




## Dendrimers for Drug Delivery

Efficacy - with reduced toxicity

Cardiac toxicity of one of world's most widely used cancer drugs (doxorubicin) reduced markedly



...whilst preserving or enhancing drug function



## Dendrimers in Agrochemicals



### Starpharma signs agrochemicals deal

**Melbourne, Australia; 5 November 2009** - Starpharma Holdings Limited (ASX:SPL, OTCQX:SPHRY) today announced the signing of a research and collaboration agreement between its wholly owned US subsidiary, DNT Inc, and a prominent, US-based agricultural chemicals company. The confidentiality provisions of the agreement prevent disclosure of the name of the collaborating company at this time.

Under the agreement the parties will use DNT's Priostar® dendrimer technology to enhance the performance of existing pesticides. The approach is a natural extension of Starpharma's drug delivery work, in which dendrimers extend the persistence of an active molecule, potentially reducing the amount of active that is required for a given effect.

The agreement applies to specific classes of pesticides, and does not prevent Starpharma's further commercialisation of dendrimers more widely in the agricultural chemicals sector.

- Extension of drug delivery technology
- Valuable new opportunity for dendrimers
- Agrochemicals market US\$124B (Pesticides US\$35.8B)
- Faster development than pharmaceuticals
- One agreement announced Nov. 2009 – a number of discussions in progress



Model demonstrating multiple points of attachment

### Dendrimer can enhance the performance of existing agrochemicals

- Adhesion to difficult surfaces
- Extension of effect/  
Controlled release
- Solublising
- Protection of Actives
- Sequestration



## Financials and Value Drivers for Starpharma

	FY 2010 (\$M)
Royalty, customer & license revenue	1.4
Grant, interest and other income	4.5
<b>Total revenue and income</b>	<b>5.9</b>
Net loss after tax	(6.4)
Net cash outflow before new capital (Cash Burn)	(3.9)
New share capital (net proceeds)	15.1
Cash at Bank (30 June 10)	22.8

15 October 2010	
ASX Code	SPL
Share Price SPL AUD	56c
52 Week Range AUD	44-78c
Shares on Issue	239.4M
Market Capitalisation AUD	~ \$134M
Major Shareholders	Acorn Capital Orbis, Dow

### Value Drivers

#### **VivaGel® - Coated Condom to market**

- Complete co-development with SSL; royalty revenue estimated for CY11

#### **Advance VivaGel® clinical development**

- Complete Phase-2 Bacterial Vaginosis program and commence Phase-3
- Advance Herpes/HPV/(HIV) efficacy trials

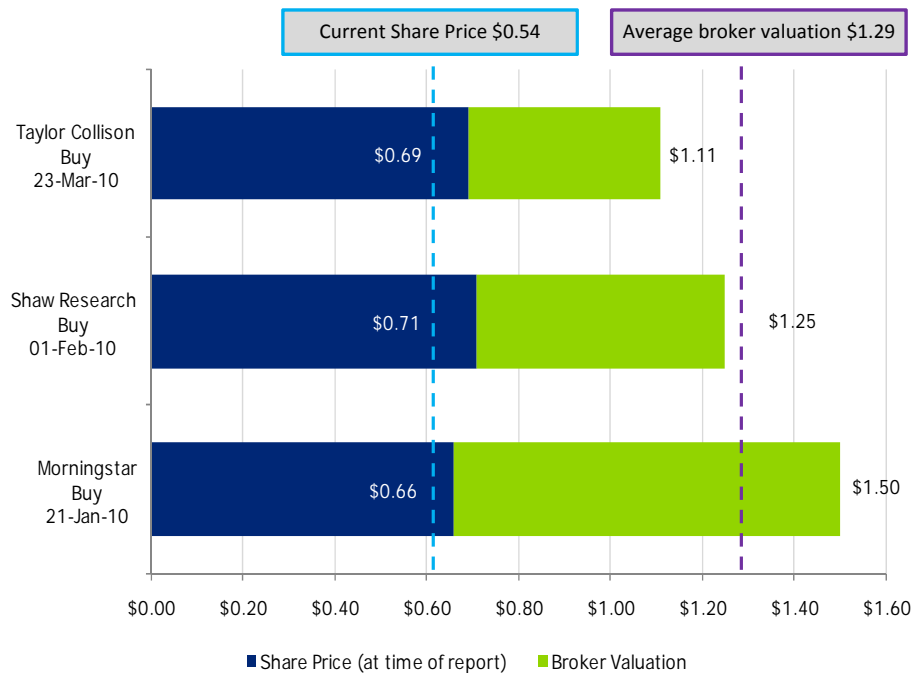
#### **Expand dendrimer-based commercial relationships**

- Advance existing and form new commercial partnerships - pharmaceuticals, diagnostics, agrochemicals



## SPL Analyst coverage and commentary

### Analyst valuations / Price targets<sup>3, 1</sup>



### Analyst commentary

"Starpharma provides **excellent exposure to the biotech sector, without the development and expenditure risks** attributable to late stage therapeutic players."

- Taylor Collison, 23 Mar 2010

"This deal [Elli Lilly's partnership with SPL for drug delivery] provides further validation of opportunities around SPL's dendrimer technology and the company's business model."

- Shaw Research, 1 Feb 2009

"Any price weakness in SPL is likely to be met with keen interest by stock accumulators looking to benefit ahead of **anticipated flow of revenue in 2011 from Starpharma's condom coatings with SSL.**"

- Bioshares, 20 Dec 2009

"SPL is one of the few companies in Australian biotechnology sector that has what we consider to be a **true technology platform** which can be used for a wide range of healthcare and industrial applications." <sup>(2)</sup>

- Shaw Research, 9 Dec 2009

"A significant **commercialisation deal in 2008 and the start of revenue generation now focuses investor attention.**"

- Morning Star, 25 Sept 2009

#### Notes:

1) As at 28 April 2010

2) Shaw acted for Starpharma in the role of Lead Manager within the past 12 months (from report date), for which they received a fee. Shaw, its associates, employees and authorised representatives have an interest in the financial products of Starpharma

3) Broker Price Targets excludes Morning Star who did not provide a price target



## Starpharma Holdings Limited

ASX: SPL

OTCQX: SPHRY

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