



## Investor Presentation

**Melbourne, Australia. Friday 24<sup>th</sup> August 2007.** Dr Jackie Fairley, CEO of Starpharma Holdings Ltd (ASX:SPL, OTCQX:SPHRY) will be presenting a company update to institutional investors, analysts and brokers today. A copy of the slide presentation is attached.

Whilst most of the information in this presentation has been provided to the market previously, there is some additional data on the condom market and condom coating opportunity and commercial opportunities for DNT.

---

### About Starpharma:

Starpharma Holdings Limited (ASX:SPL, OTCQX:SPHRY) is a world leader in the development of dendrimer nanotechnology for pharmaceutical, life-science and other applications. SPL is principally composed of two operating companies, Starpharma Pty Ltd in Melbourne, Australia and Dendritic Nanotechnologies, Inc in Michigan, USA. Products based on SPL's dendrimer technology are already on the market in the form of diagnostic elements and laboratory reagents.

The Company's lead pharmaceutical development product is VivaGel™ (SPL7013 Gel), a vaginal microbicide designed to prevent the transmission of HIV and genital herpes.

In the pharmaceutical field Starpharma has additional specific programs in the areas of Drug Delivery and ADME Engineering™ (using dendrimers to control where and when drugs go when introduced to the body), Polyvalency (using the fact that dendrimers can activate multiple receptors simultaneously) and Targeted Diagnostics (using dendrimers as a scaffold to which both location-signalling and targeting groups are added to allow location of specific cell type, such as cancer cells).

More broadly the company is exploring dendrimer opportunities in materials science with applications as diverse as adhesives, lubricants and water remediation.

SPL has a comprehensive IP portfolio that comprises more than 180 patents/applications issued and pending across 32 patent families - a unique level of IP concentration among nanotechnology companies.

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

**Microbicides:** A microbicide inactivates, kills or destroys microbes such as viruses and bacteria. Microbicides may be formulated as gels, creams, sponges, suppositories or films with the purpose of reducing significantly the incidence of STIs. They are intended for vaginal or rectal use to afford protection for varying periods, from several hours up to days. Microbicides may also be designed to have a contraceptive function.

**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 Stock Exchange. The Bank of New York is the depositary bank.

### 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:**

<b>Media</b>	<b>Starpharma</b> <a href="http://www.starpharma.com">www.starpharma.com</a>	
<b>Rebecca Wilson</b> <b>Buchan Consulting</b> Tel: +61 2 9237 2800 Mob: +61 417 382 391 rwilson@bcg.com.au	<b>Dr Jackie Fairley</b>  Chief Executive Officer +61 3 8532 2704	<b>Ben Rogers</b>  Company Secretary +61 3 8532 2702 ben.rogers@starpharma.com



# Corporate Presentation

August 2007

ASX:SPL

OTCQX:SPHRY



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 presentation 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.



## Company Overview

- World leader in developing dendrimer products for pharmaceutical and life-sciences
- Lead product VivaGel™ is being developed (with >\$20M NIH support) under IND as a topical microbicide to prevent HIV and Genital Herpes
- Deep pipeline of programs - drug delivery, siRNA delivery and drug optimisation
- Wholly-owned US subsidiary – DNT Dendritic Nanotechnologies Inc. – a leader in the development of advanced dendrimers for life science and industrial applications

### Starpharma Holdings Limited (8/8/07)

ASX Code	SPL
Level 1 ADR (OTCOX)	SPHRY
Share Price SPL AUD	39c
12 Month High/Low AUD	64c / 34c
Shares on Issue	167.8M
Market Capitalisation AUD	~ \$65M
Average Monthly Volume	4.5M shares
Cash on Hand (June07) AUD	\$10.1M

\$1 AUD = 0.845 USD

Starpharma is a world leader in the development of dendrimer products for pharmaceutical, life-science and other applications



## Investment Summary

- Starpharma has a leading topical microbicide (VivaGel™) in development for prevention of sexually transmitted infections (STIs), HIV and genital herpes
- Topical microbicides have strong consumer demand and funding support
- VivaGel™ will be “first in class” for herpes prevention
- VivaGel™ has already achieved significant milestones and support:
  - FDA Fast track status granted for HIV
  - >US\$26M of NIH funding for microbicide development
  - Only microbicide with NIH funding for genital herpes indication
- Commercially attractive condom coating (line extension) opportunity
- Deep pipeline of drug delivery, siRNA delivery and life science programs
- Generating revenue through existing royalties and non-dilutive NIH grants/contracts
- Significant US shareholder base, US operations and increasing profile

**Starpharma represents a significant value proposition for investors**

## Company Structure



8.6%



**Starpharma Holdings Limited**  
 ASX:SPL  
 OTCQX:SPHY

100%

100%

### Starpharma Pty Ltd

- 36 employees based in Melbourne, Australia
- Leading developer of dendrimers as pharmaceuticals
- Lead development product, VivaGel™ is a vaginal microbicide for the prevention of genital herpes and HIV
- Broad portfolio of other dendrimer projects including drug delivery, cancer and targeted diagnostics

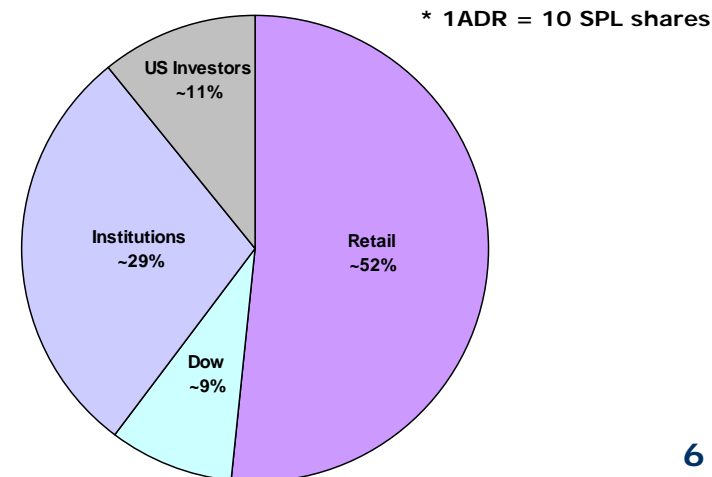
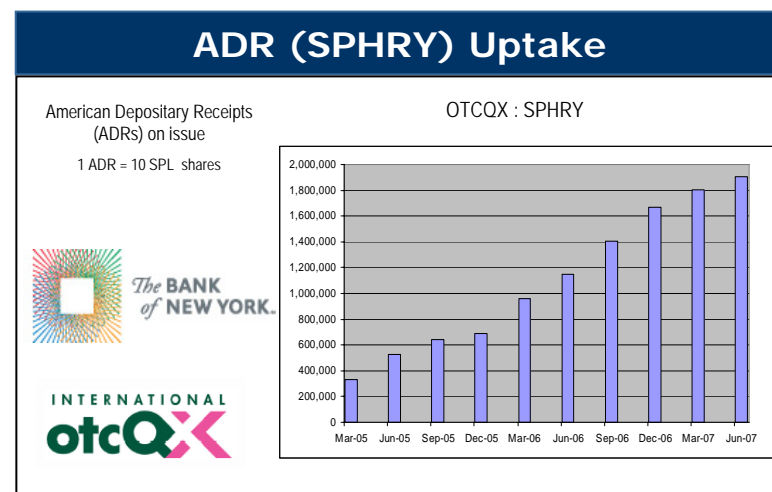
### Dendritic Nanotechnologies Inc. (DNT)

- Wholly owned subsidiary based in Michigan, USA (16 employees)
- Leading developer and provider of advanced dendrimers for life science & industrial/materials applications
- Existing licensing agreements with established revenue streams for dendrimer technology



## Shareholding and OTCQX:SPHRY

- **Major shareholders include:**
  - The Dow Chemical Company (NASDAQ:DOW)
  - Acorn Capital
  - Biotech Capital
  - Queensland Investment Corporation
  - Irrewarra/ GoldmanSachs-JBW
  
- **Exceptional Level 1 ADR program**
  - >72% growth in ADRs issued in the past 12 months
  - ~11.2% of issued capital
  - Most heavily traded Australian biotech Level-1 ADR
  
- **OTCQX launched March 2007**
  - Premium market tier for Level 1 ADRs
  - Daily volumes increased (+ ~55%)
  - Merriman Curhan Ford initiates coverage June 2007
  - Active brokers include Merriman, Merrill, UBS, Jefferies, NITE
  
- **Ongoing program to build liquidity and US interest in SPL/SPHRY**



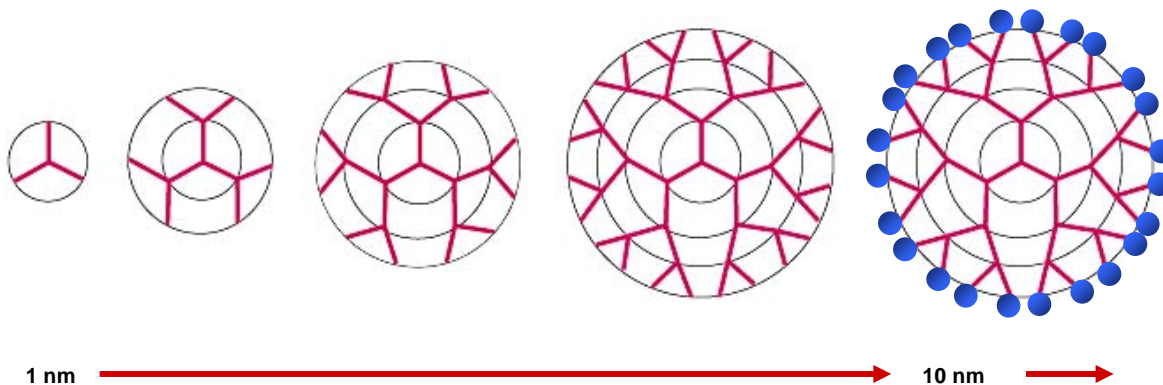


## Technology Overview

### Unique Characteristics of Dendrimers:

- Precisely defined, synthetic macromolecules (1-10nm)
- Can be designed to precisely define surface topology, optimize potency, pharmacokinetics and localization; heat stable or biodegradable
- High multivalent binding affinity - ability to disrupt protein-protein interactions

*Dendrimer as a drug  
e.g. VivaGel™ anti-viral active  
ingredient*



**Starpharma's existing commercial agreements for dendrimers**

**Stratus CS®** : Cardiac marker diagnostic licensed to Dade Behring

**DADE BEHRING**

**SuperFect®** : Gene transfection technology licensed to Qiagen



**STARBURST®** dendrimers commercially available via Sigma Aldrich

**ALDRICH**

**Prioject®** siRNA & DNA transfection reagents

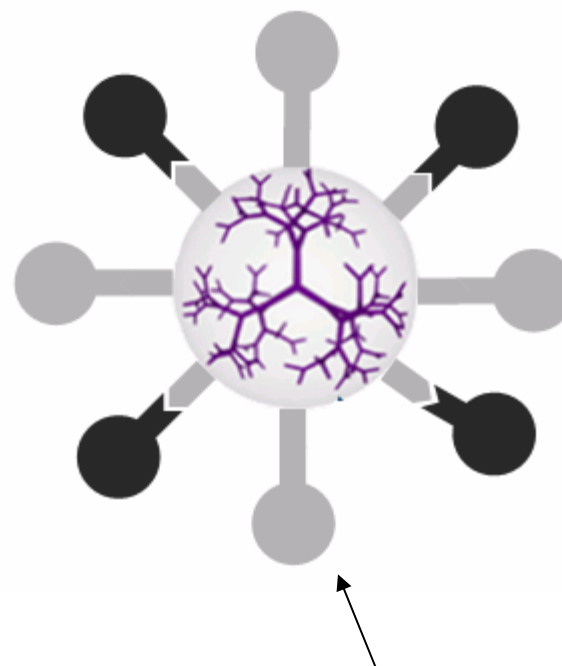


## Technology Overview (continued)

### Commercial Advantages of Dendrimers:

- Key enabling nanoscale technology
- Highly versatile technology :
  - drugs (VivaGel),
  - drug delivery,
  - RNAi/DNA delivery,
  - diagnostics & materials applications
- Scalable chemical manufacturing process
- can tailor features for tissue targeting
- competitive COGs
- Well tolerated

### *Example: dendrimer as a drug delivery vehicle*



Small molecule drug or therapeutic protein



## Product Pipeline



## Starpharma's Pipeline: Balanced for Risk

Pharmaceutical & Medical Products	Proof of Concept	Lead	Clinical Trials	Sales
<b>VivaGel™</b> * Genital Herpes prevention * HIV prevention * condom coating & other line extensions	→	→	→	
<b>ADME Engineering™</b> * Therapeutic protein PK optimisation	→			
<b>Drug Delivery - Small Molecules</b> * Cancer therapeutic	→			
<b>Drug Optimisation</b> * Enhanced solubilisation	→			
<b>in-vivo and in vitro Diagnostics</b> * Stratus CS® (Cardiac Diagnostic) * MRI imaging (Ovarian cancer & cardiovascular disease)	→			→
Life-science Products	Proof of Concept	Prototype	Pre-launch	Sales
<b>Gene Transfection Reagents</b> * SuperFect®	→			→
<b>siRNA Transfection Reagents</b> * PrioFect™	→		→	
Materials Sciences Products	Early	Intermediate	Advanced, Partnered	Sales
<b>Specialty &amp; Fine Chemicals</b> * Priostar™ Dendrimers (multiple applications) * Starburst™ Dendrimers (Catalogue of over 200 products)	→	→	→	→



## VivaGel™ - Lead Product for Prevention of Sexually Transmitted Infections (STIs )





## VivaGel™ – Lead Product for Prevention of Sexually Transmitted Infections (STIs)

- VivaGel™ is a topical vaginal microbicide being developed to prevent STIs in women
- Being developed under two INDs for the prevention of HIV and genital herpes (HSV-2) in women
- Gel-based formulation with a nanotech dendrimer active (SPL7013), delivered via a vaginal applicator
- Dendrimer inactivates HIV and HSV-2 by binding to the virus preventing it attaching to the host
- Significant and growing recognition that microbicides offer the best alternative for prevention
- Potent contraceptive activity in animal models



### HIV

- Major health burden in both developed and developing countries
- 39 million people living with HIV; every day 7,000 women are newly infected
- No cure - more than 50 HIV vaccines have failed and estimates are that an effective vaccine is many years away

### Genital Herpes

- Recurrent, lifelong viral infection
- Estimated to infect between 15-25% of adults in developed countries, growing to between 40-50% women in the US by 2025
- Existing prevention methods have proven ineffective and developmental vaccines disappointing



## Commercial Opportunity for Microbicides

- **Large, addressable markets**
  - HIV more common in developing countries
  - HSV-2 common in both developing and developed countries
  
- **Increasing market support for products**
  - US government committed to development of safe and effective microbicides
  - US opinion leaders now calling for National Herpes control Program
  
- **Several industry surveys have confirmed strong consumer demand**
  - 30-40% female US college students would buy a microbicide - 70% with contraceptive properties
  - Over 20 million women in US would use a microbicide
  - Microbicide market estimates > \$1.5-3 Billion

### Estimated Market for microbicides in Developed Countries

Market Penetration	Average Frequency of Use Per Annum		
	25x US\$M	50x US\$M	100x US\$M
2.5%	365	730	1,460
5.0%	725	1,450	2,900
10.0%	1,450	2,900	5,800

#### Key assumptions

291m women of reproductive age (15-49) in developed countries  
 Unit sale price circa US\$2  
 Usage rates according to published data

**“If I had a magic bullet to accelerate something it would be the microbicide...”**

**Bill Gates, July 2006**

Source: World Bank; UNAIDs; EC AIDS survey; BCG analysis and various microbicide publications



## VivaGel™ – Product Features and Performance

### VivaGel™ Offers Several Key Advantages

- Market research indicates significant (international) user and payor demand for microbicide gels
- VivaGel™ : “first in class” for Herpes
- Compelling HSV-2 & HIV efficacy and potent contraceptive activity in animal models
- Significant NIH support for development
- Viruses appear not to develop resistance to VivaGel™

### Excellent Results in Human and Animal trials

- Successfully trialled in both men and women under IND
- VivaGel™ is currently in expanded safety human studies (Phase I/IIa) in USA & Africa
- VivaGel™ shows excellent activity in relevant HIV & HSV-2 strains in very stringent animal models
- Well tolerated in male and female subjects

### Excellent Drug Characteristics

- Lower development risk : Topical gel, external to body
- Full development package; well defined chemical entity, scalable
- Affordable – Low manufacturing cost
- Excellent IP position





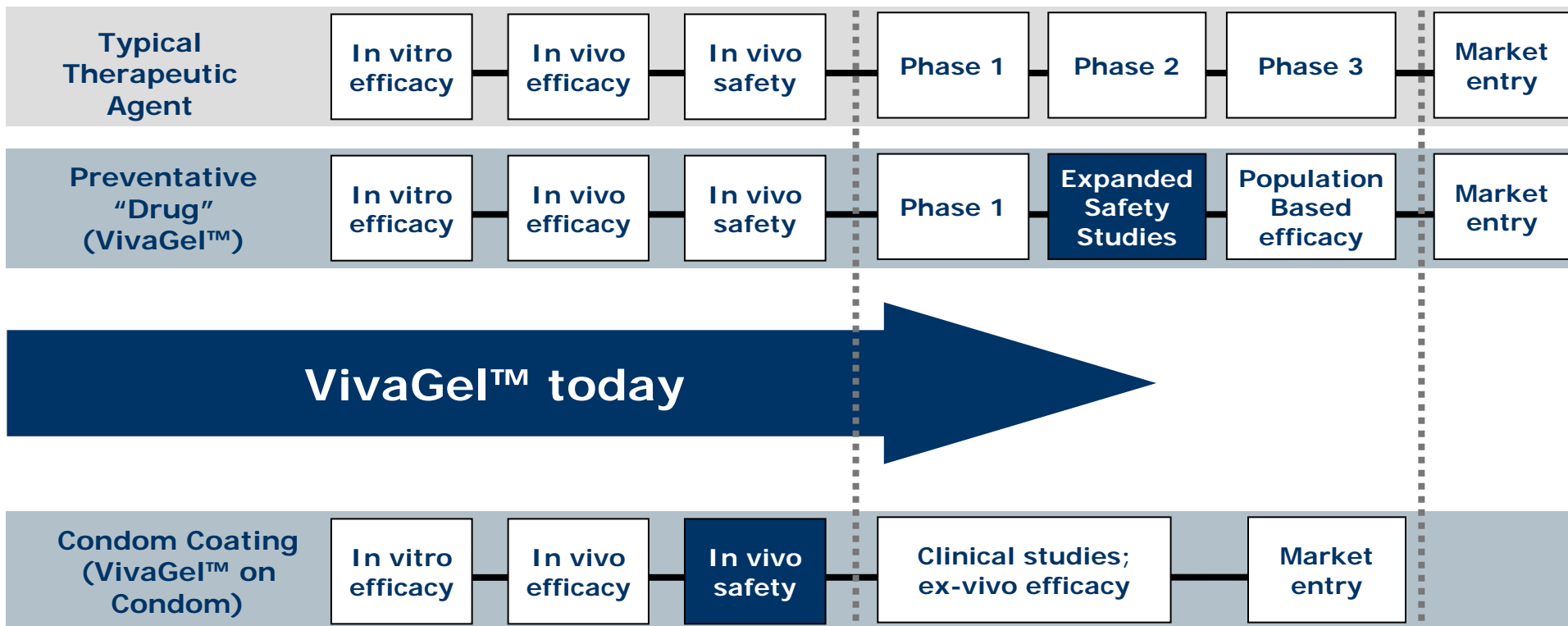
## VivaGel™ - Clinical Trial Status

Study	No. Participants	Site(s)	IND Application	Status
Safety, tolerability and pharmacokinetic study of escalating doses of VivaGel in healthy women when administered vaginally, once daily for 7 days	37	Adelaide, Australia	Prevention of HIV	Complete
Safety and acceptability study of VivaGel when administered to the penis of healthy male volunteers once daily for 7 days	37	Melbourne, Australia	Prevention of HIV	Complete
Expanded safety and tolerability study of VivaGel in healthy young, sexually abstinent women when administered twice daily for 14 days	60	San Francisco, USA and Kisumu, Kenya	Prevention of genital herpes	Ongoing
Expanded safety and acceptability study of VivaGel in healthy young, sexually active women when administered twice daily for 14 days	40	Tampa, USA and San Juan, Puerto Rico	Prevention of HIV	Ongoing



## VivaGel™ - Development stage and plan

### PRODUCT TYPE



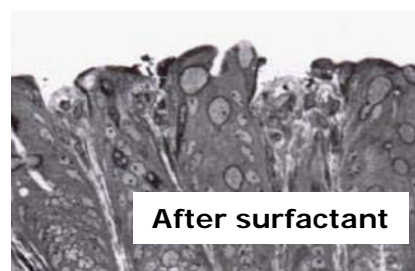
## The Condom Coating Opportunity

### The Reason for the Opportunity

- Condom manufacturers have long recognised a demand for premium condoms with added protection
- Historically N9 (a surfactant) has been used
- N9 is no longer considered appropriate as it has been shown to increase risk of HIV and HPV
- N9 is thought to disrupt the vaginal wall, allowing entry to these viruses.
- Condom manufacturers and regulators are actively seeking an N9 replacement
- VivaGel™ may be the replacement of choice given it is not cytotoxic and its activity: antiviral (HSV-2/HIV) and contraceptive

### VivaGel™ is NOT a surfactant

#### Illustration of surfactant action (not VivaGel™)

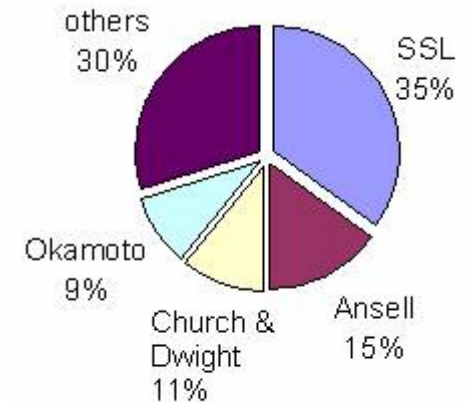


*Contraception* 1998;57:341-348

### Condom Market at a Glance

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 in which VivaGel™ offers a potential premium product**



## VivaGel™ – Development and Commercial Strategy

### VivaGel™

- One of the most advanced 2<sup>nd</sup> generation microbicides for HIV
- First in class for HSV-2
- Significant non-dilutive NIH support; strong ongoing support for microbicides
- Broad application; chronic-use product
- Partnering/commercial strategies likely to differ between developed (OTC/Pharma) markets and developing (NGO/Govt.) countries

**Status: Expanded Safety human trials in US, Australia and Kenya  
In discussions with various potential commercial partners**

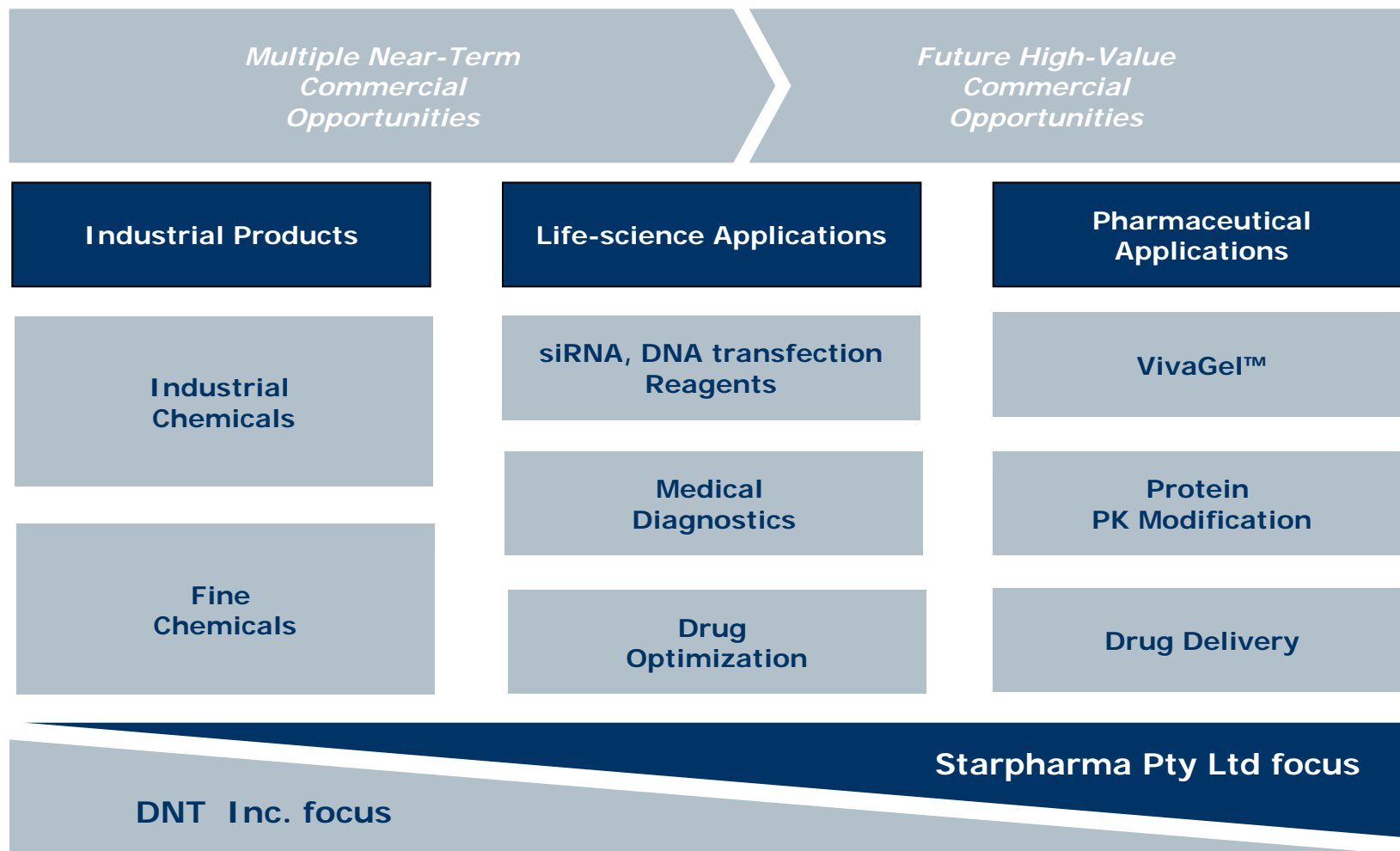
### VivaGel™ Condom Coating opportunity

- Possible replacement to common spermicidal coatings e.g. nonoxynol-9 (N-9)
- Likely less onerous regulatory path for VivaGel™ as a condom coating - offering a line-extension with shorter path to market.

**Status: Regional deal announced July 2007  
In discussions with further potential commercial partners**



## Portfolio: Overview of Opportunities





## Portfolio: siRNA Delivery – PrioFect™

*Concept: Overcome the principal obstacle to the development of RNAi-based drugs ... delivery*

*“RNAi-based therapies have so far failed to take off because of the difficulty of getting the therapeutic molecules into target cells”*

### Merck buys Sirna Therapeutics

By Bioperform Web Watch  
Posted 10/31/2006 11:01:00 AM

The Associated Press reports that Merck & Co. has agreed to pay \$1.1 billion to buy Sirna Therapeutics Inc. Merck's \$13-per-share offer for the San

### Commercial opportunities for PrioFect™:

#### 1. Research reagent market (\$200 million)

- Licensed globally to EMD Biosciences
- Agreement includes royalties, supply and milestones
- First products to market in 2007

#### 2. In vivo Applications

- Rights retained, significant interest
- Opportunity for multiple deals

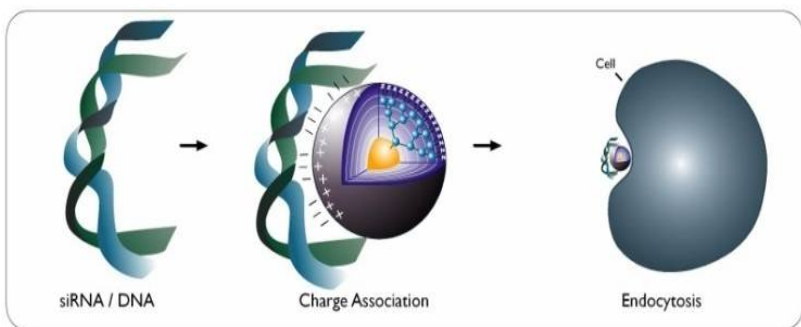


EMD Biosciences, Inc. is part of the Performance and Life Science Chemicals (PLS) division of Merck KGaA, Darmstadt, Germany. EMD markets brands including Calbiochem®, Novabiochem®, and Novagen®.

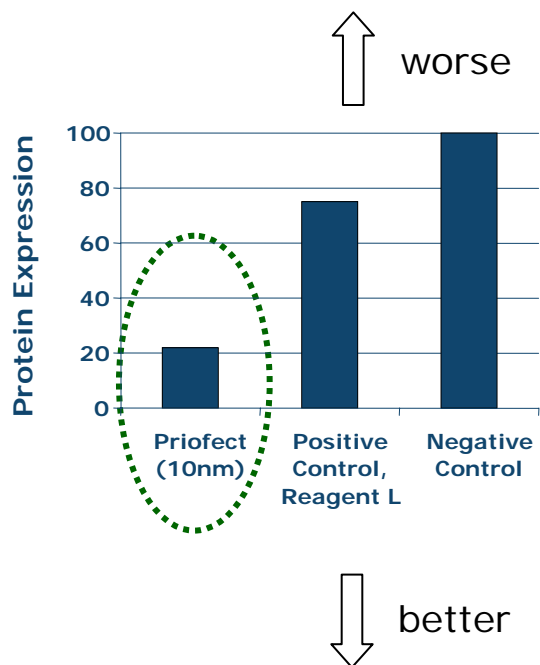
Merck KGaA, Darmstadt, Germany is a global pharmaceutical and chemical company with sales of EUR 6.3 billion in 2006.

*Concept: Overcome the principal obstacle to the development of RNAi-based drugs ... delivery*

### Technology



### Inhibiting Protein Expression



### Significance

- Potential for
- ♦ Cell specific targeting
  - ♦ Enhanced residence time
  - ♦ Protection from nucleases
  - ♦ Reduced off-target effects

Opportunity for multiple deals

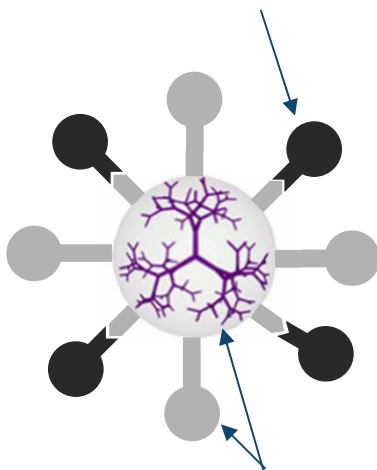
Significant interest from potential pharmaceutical partners

**Precise size control:**  
allows optimization according to cell type

**Concept:** increase half life of drugs by attaching to dendrimer

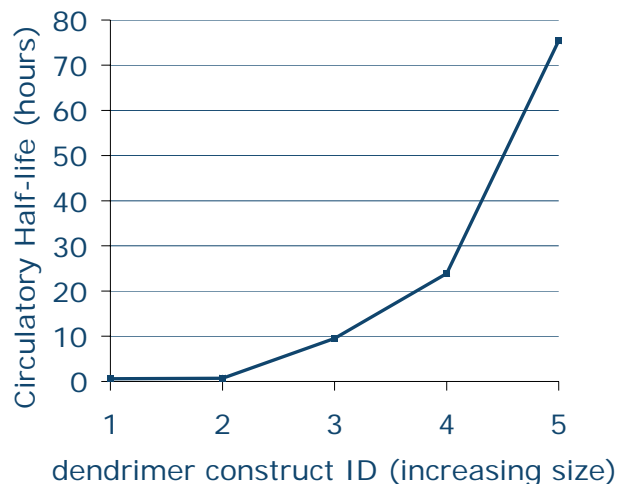
Technology

**Payload Drug  
(e.g. methotrexate)**



**Dendrimer  
construct**

Extending Drug Half Life



Significance

Potential for

- ♦ less frequent dosing
- ♦ Reduced cost of therapy
- ♦ Improved compliance

Especially valuable for protein therapeutics

- ♦ Very short half life
- ♦ Expensive compounds, therefore want to reduce amount needed

Opportunity for multiple deals

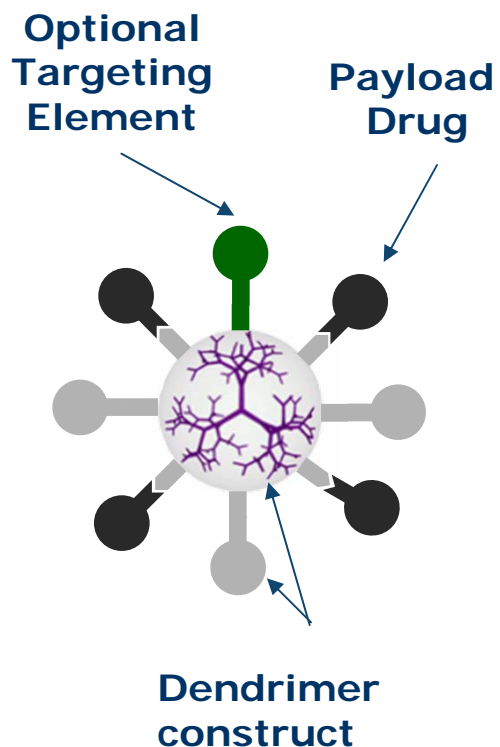
Significant interest from potential pharmaceutical partners

***The global protein therapeutics market was valued at US\$57 billion in 2005.***

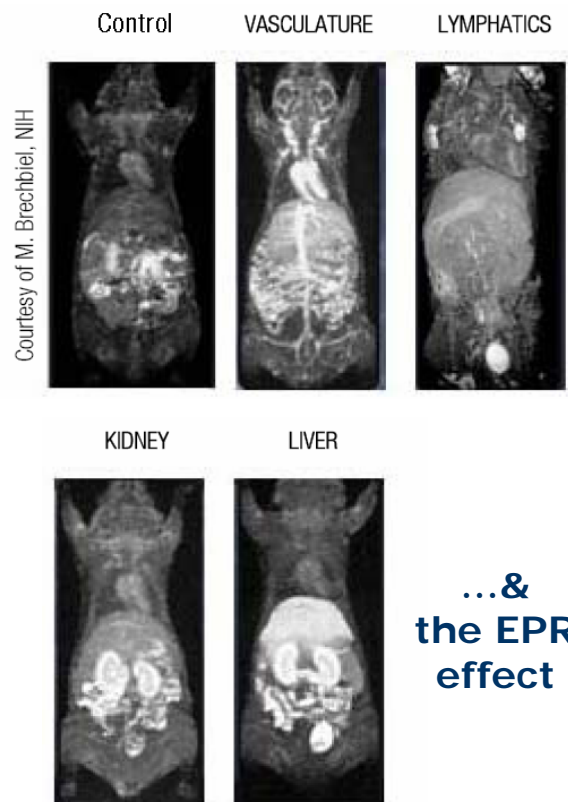


*Concept: Attach drugs to dendrimers to control and modify distribution*

### Technology



### Dendrimers can be Targeted



### Significance

Potential for

- ♦ Improved efficacy of drugs
- ♦ Reduced off-target effects
- ♦ Product lifecycle management
- ♦ Improved solubility of drugs
- ♦ Drug "rescue"

Proof of concept in cancer model

Opportunity for multiple deals

Also offers imaging opportunity

Dendrimers are concentrated in solid tumours via the EPR (enhanced permeability & retention effect)

## Portfolio: Industrial Applications

Sector	Current Discussions with...	Application	Market Size USD /Region
Research Reagents	Major Reagent manufacturers	Fluorescent dye conjugate	\$100M /US
	Major Reagent manufacturers	Dyes for <i>in vitro</i> diagnostics	\$2.5B /US
Automotive Lubricants	"Top 5" US Oil Company	Lubricant additive	\$1.7B /US
Specialty Additives	Large Construction Material Supplier	Plastics additive	\$5.5B /US
Manufacturing	Major Technology Company	Medical and dental adhesives and sealants	\$1.3B /US
	Multiple avenues of exploration	Specialty Adhesives	\$2.2B /US
	"Top 5" European electronics manufacturer	Electronics chemicals	\$3.7B /US
Pharmaceutical	Global Healthcare Company	Solubilisation/Excipient	\$1.4B /Europe
Cosmetic Ingredients	Cosmetic Ingredient Suppliers	Solubilisation	\$6.2B /US
Water Treatment Chemicals	Water quality specialists	Water filtering/ remediation	\$3.1B /US

Commercial Discussions in applications yielding access to potential aggregate markets > US\$25 Bi

Partners and Collaborators

Industry Collaborators



DADE BEHRING



Johnson & Johnson Research  
PTY. LIMITED



Research/  
University Collaborators



CALTECH



UTMB The University of Texas Medical Branch





## Starpharma: 06/07 Highlights

### Acquisition of DNT

SPL acquires US company DNT  
Dow becomes SPL's largest holder  
Integration of SPL and DNT complete

### Richard Hazelton appointment

Retired Dow Corning Chairman/CEO appointed to SPL Board

### VivaGel™ clinical trial progress

Expanded safety trial initiated in United States (UCSF) and Kenya  
Expanded safety trial in men completed  
Male data presented at International AIDS Society 2007

### Further NIH/MTN support

Additional support for VivaGel™ clinical development  
Safety/acceptability trial commenced Florida and Puerto Rico

### siRNA deal with EMD Biosciences

Worldwide exclusive license and supply agreement for PrioFect™

### Launch on OTCQX

SPL appointed to international OTCQX - premium ADR exchange  
Merriam Curhan Ford initiates coverage

### New commercial opportunity for Priostar™

DNT's Priostar™ shown to improve performance of fluorescent laboratory reagents

### Condom Coating Deal

Regional commercial deal for condom coatings



## Key Investment Highlights

### VivaGel™: A Unique Lead Product

- Compelling competitive advantages
- Clinical candidate with Significant support from NIH (>US\$20M)
- First in class for genital herpes; condom coating line extension

### Significant Commercial Opportunity

- HIV and genital herpes at epidemic proportions (Genital herpes: US 22% adults & Europe 15-20%)
- Strong consumer awareness and government demand

### Diversified Pipeline of Opportunities

- Near term commercial opportunities e.g. siRNA, life science and industrial balance risk & timeframes of pharmaceutical application
- Versatile technology with significant commercial potential

### Increasing US Profile

- ~20% of stock held in US; Dow the largest Shareholder
- US subsidiary with marketed products and extensive commercial relationships
- US based ex CEO/Chairman Dow Corning on the SPL Board

Starpharma represents a significant value proposition for investors



## Starpharma Holdings Limited

ASX: SPL

OTCQX: SPHRY

**Dr Jackie Fairley**

**CEO**

+613 85322704

Further information:

[www.starpharma.com](http://www.starpharma.com)

[info@starpharma.com](mailto:info@starpharma.com)

<u>SPL</u>	<u>US\$M</u>
Market Capitalisation	~55
NIH Support	>26
Cash on Hand (Jun 07)	8.5

\$1 AUD = 0.845 USD

