



Starpharma Holdings Limited

ASX:SPL
OTCQX:SPHRY

ASX Spotlight Series
20 May 2010

Corporate Overview

Dr Jackie Fairley CEO



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. Certain VivaGel studies are funded by U.S. NIH/NIAID/DAIDS, Contract No. HHSN266200500042C. The content of this presentation does not necessarily reflect the views or policies of the Department of Health and Human Services, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.



Investment Summary

Starpharma - a world leader in the development of dendrimer products

- **Attractive commercial partnerships in place:**
 - VivaGel® condom coating – simpler regulatory path than drugs
 - 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 clinical development with >US\$26M NIH support
- **Dendrimers – multiple partnerships already in place:**
 - 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

| <u>Starpharma Holdings Limited</u> <u>(17/5/10)</u> | |
|--|--------------|
| ASX Code | SPL |
| Level 1 ADR (OTCOX) | SPHRY |
| Share Price SPL AUD | 58.5c |
| Shares on Issue | 237.8M |
| Market Capitalisation AUD | ~ \$140M |
| Average Mthly Volume: ASX | ~5.4M shares |
| Average Mthly Volume: OTCOX | ~ 1M shares# |
| Cash on Hand AUD | \$23.7M* |

*As at 31/3/10
1ADR = 10 ASX shares

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



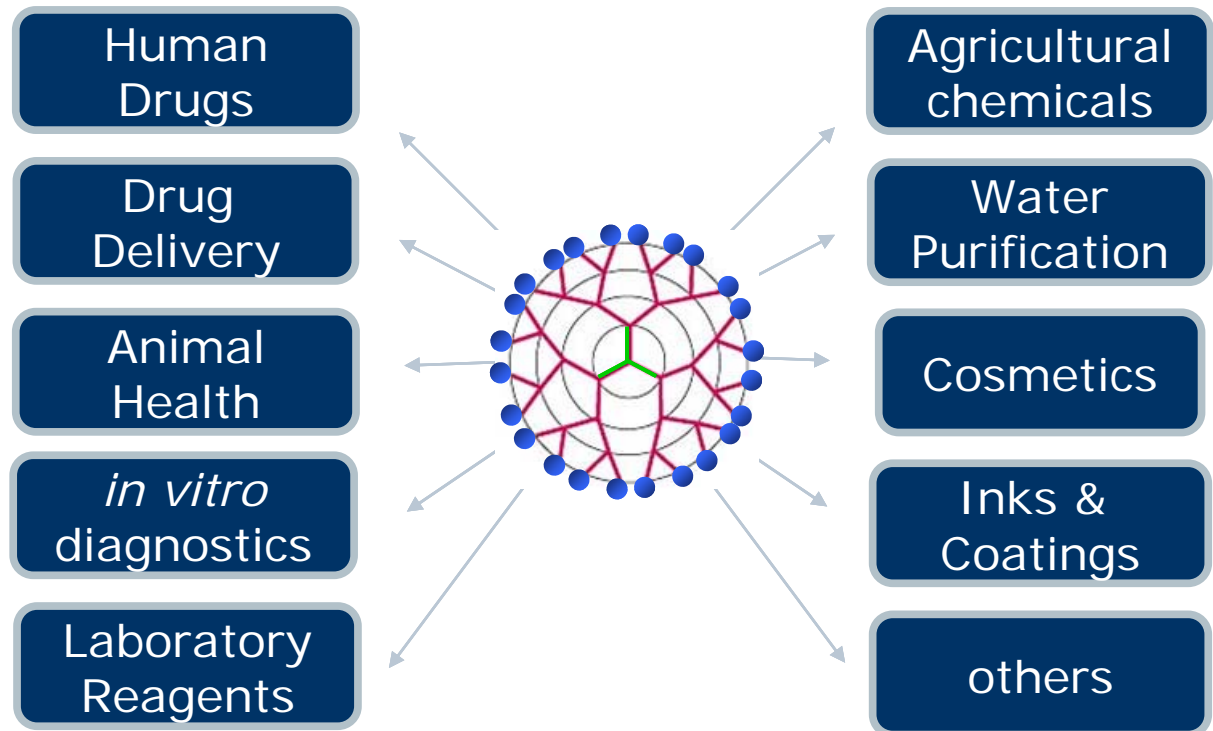
Dendrimers – A Platform Technology

“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



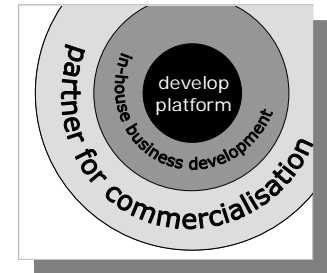


Starpharma's Commercial Partnerships and Partnering Strategy



VivaGel®

Co-development deal for Condom Coating



Dendrimers for Drug Delivery

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



Stratus CS®

Cardiac marker diagnostic 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



Starpharma's Pharmaceutical and Life Sciences Product Pipeline

▪ Lead Products In Clinical Testing:

- VivaGel® – coated condom (accelerated program)
- VivaGel®- "stand-alone" gel
 - HSV-2 prevention (genital herpes)
 - HIV prevention (AIDS)
 - Bacterial Vaginosis trial program to commence mid 2010

▪ Partnered Products In The Market:

- Stratus CS® – **Siemens Healthcare** – cardiac diagnostic
- Superfect® – **Qiagen Inc.** – gene transfection reagents
- Priofect® – **EMD Merck** – siRNA/DNA transfection reagents

▪ Partnered Programs/Products In Development:

- Drug Delivery – **Lilly, Elanco, Stiefel (GSK)** and various undisclosed
- ADME Engineering – undisclosed – protein drugs
- Agrochemicals – with multi-billion dollar US Ag. Co.



VivaGel® - for the Prevention of Sexually Transmitted Infections (STIs)

Two Products in Development

VivaGel®-Coated Condom



VivaGel®





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



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

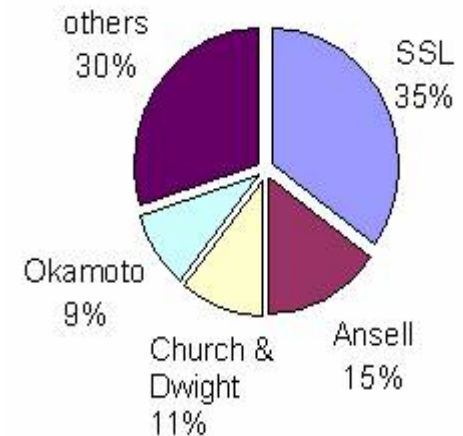
▪ SSL International plc to market globally

- 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 (organically and by acquisition)

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

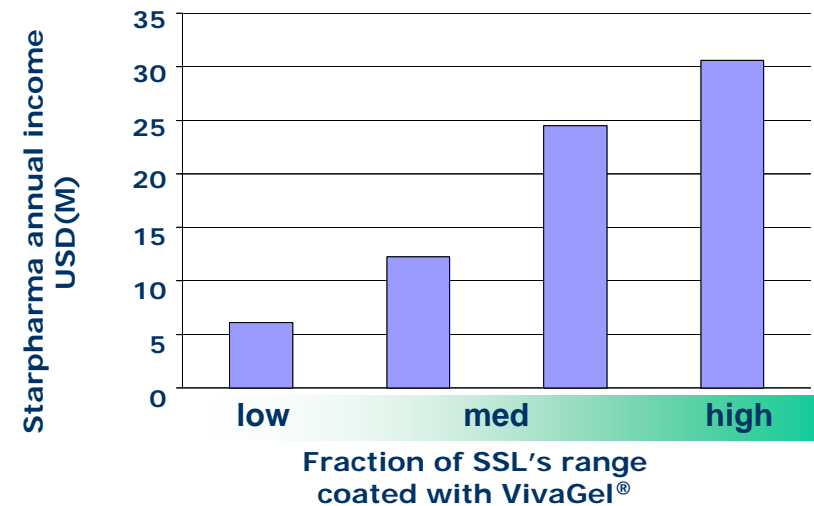


VivaGel[®]-Coated Condom



- 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)

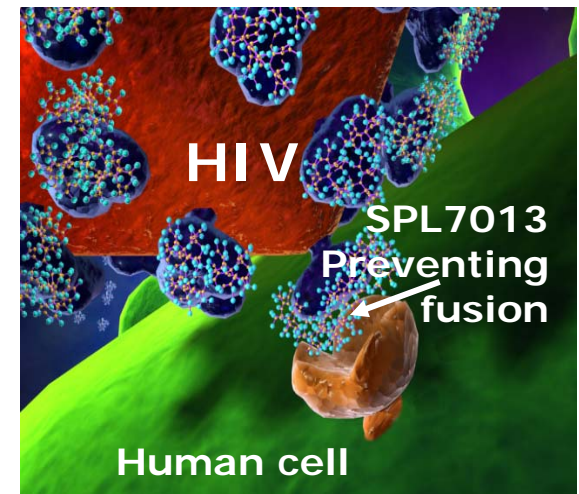
Potential upsides (not included):

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



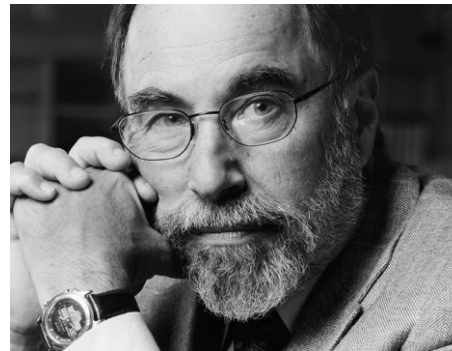


The Demand for a Microbicide



Barack Obama
President, USA

"Topical microbicides, therefore, represent a critical element in a comprehensive strategy to fight the HIV/AIDS pandemic. We must continue to prioritize microbicide research and development."
March 2007



Professor David Baltimore
Nobel Prize Winner
Authority on HIV

"we are no closer to a vaccine now than we were [in 1984]"
February 2008



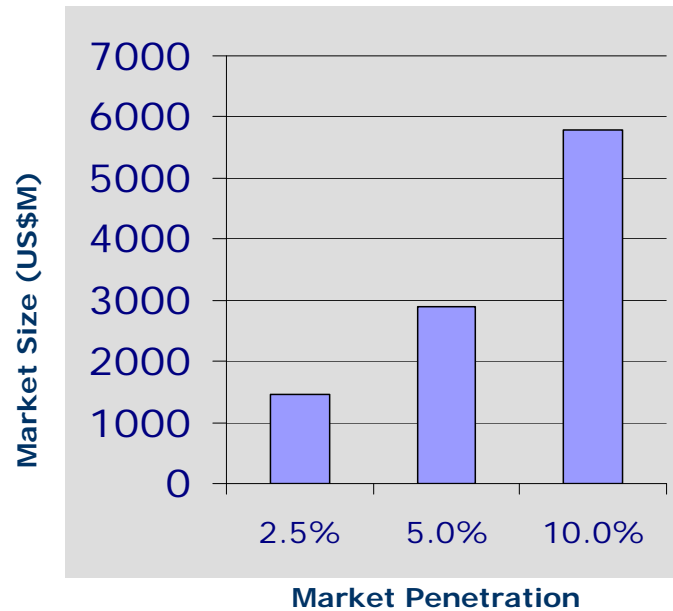
Dr Peter Piot
Executive Director,
UNAIDS

"Developing an effective microbicide will be a critical step forward in the AIDS response. To provide women with HIV prevention technology they can use themselves will be nothing short of revolutionary" 11
February 2008



Commercial Opportunity for Microbicides

Estimated Market* for Microbicides in Developed Countries



Industry surveys confirm strong consumer demand

30 - 40%

Percentage of female US college students who would buy a microbicide effective against STIs

>20 million

Women in US who would use a microbicide

** Key assumptions: 291m women of reproductive age (15-49) in developed countries Unit sale price ~ US\$2; Usage rates according to published data
 Source: World Bank; UNAIDs; EC AIDS survey; BCG analysis, various analyst and microbicide publications*

Independent Microbicide market estimates > \$3 Billion



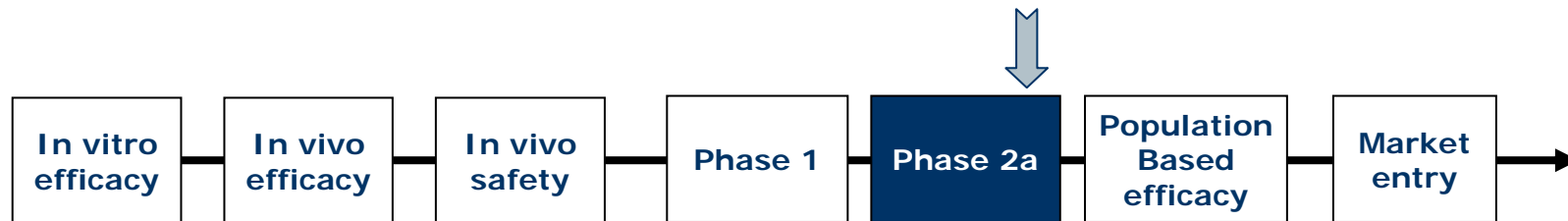
VivaGel® - Bacterial Vaginosis (BV)

The Market 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 of HIV & other STIs (link to preterm birth)
- Global market for *topical* BV treatments: 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.*)
- VivaGel® BV clinical program to commence mid 2010



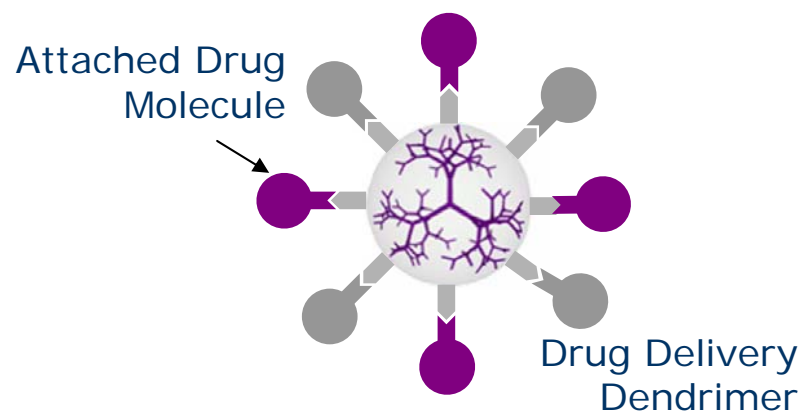
VivaGel® Clinical Development Status



- Currently in mid-stage clinical trials for HIV and Genital Herpes
- 5 Clinical Trials in >200 people
- Safe and well tolerated in humans
- Non-dilutive NIH funding >US\$26m; extensive development package
- US FDA Fast Track Status
- BV trials to commence mid 2010
- Condom Coating – accelerated program (device branch)



Dendrimers for Drug Delivery



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 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
- Solubilising
- Protection of Actives
- Sequestration



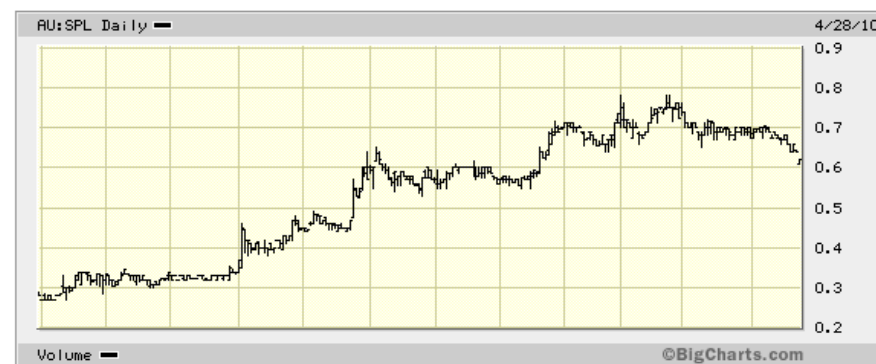
Financial Summary

| | FY 2009 \$M | FY 2008 \$M |
|---|-------------------|-------------------|
| Royalty, customer & license revenue | 2.0 | 1.4 |
| Grant, interest and other income | 7.8 | 8.5 |
| Total revenue and income | 9.8 | 9.9 |
| Net loss after tax | (4.1) | (7.5) |
| Net cash outflow before new capital (Cash Burn) | (2.9) | (6.1) |
| New share capital (net proceeds) | 7.0 | 3.5 |
| Cash at Bank | 11.6* | 7.5 |

* Cash as at 31/3/10 \$23.7M
(incl. funds raised Nov 2009 @ 52c)

Starpharma Holdings Limited (17/5/10)

| | |
|-----------------------------|--------------|
| ASX Code | SPL |
| Level 1 ADR (OTCQX) | SPHRV |
| Share Price SPL AUD | 58.5c |
| Shares on Issue | 237.8M |
| Market Capitalisation AUD | ~ \$140M |
| Average Mthly Volume: ASX | ~5.4M shares |
| Average Mthly Volume: OTCQX | ~1M shares# |
| Cash on Hand AUD | \$23.7M* |





Value Drivers for Starpharma

Get VivaGel® Condom coating to market

- Complete co-development with SSL plc
- Regulatory filings and approvals for VivaGel® coated condoms
- Commencement of royalty revenue estimated for CY11



Advance VivaGel® through clinical development

- Commence and complete Phase-2 Bacterial Vaginosis clinical program
- Phase-3 clinical study for Bacterial Vaginosis leading to product registration
- Complete IIa trials and advance Herpes/HPV/HIV efficacy trials

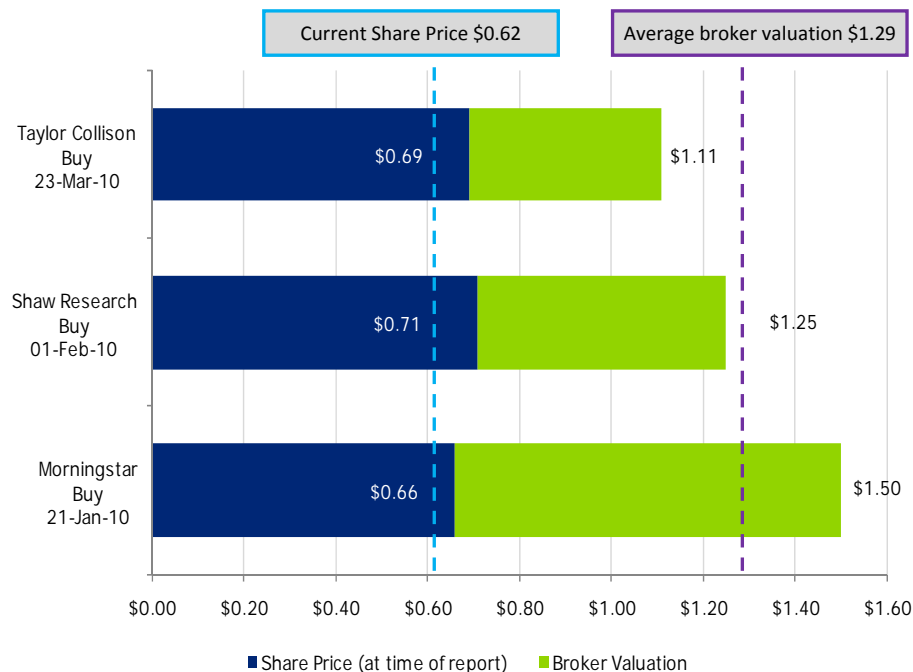
Expand dendrimer-based commercial relationships and programs

- Advance existing partnerships - pharmaceuticals, diagnostics, agrochemicals
- Potential sales of first agrochemical product
- Establish new, "risk-free" commercial partnerships – medical and industrial



SPL Analyst coverage and commentary

Analyst valuations / Price targets^{3, 1}



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 [sic] 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." ⁽²⁾

- 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

Dr Jackie Fairley

CEO

+613 85322704

Further information:

www.starpharma.com

info@starpharma.com





Supplementary Information



Key Management

**Dr Jackie Fairley,
President and CEO**

- >20 years international business development and general management experience in pharmaceuticals and biotechnology
- Former senior roles with CSL and Faulding (now Mayne/Hospira)

**Dr Paul Barrett, VP Business
Development**

- Significant experience in marketing and business development in Australia and UK
- Broad life-science experience; competitive intelligence

Dr David Owen, VP Research

- Extensive experience in medicinal chemistry and biochemistry
- Managing teams focussed on commercially directed drug discovery

**Dr Jeremy Paull, VP
Development & Reg. Affairs**

- Integral role to advancement of VivaGel clinical program
- Extensive NIH liaison, regulatory and product development experience

**Ben Rogers,
Company Secretary**

- Extensive experience in finance, corporate governance and HR management
- Member of Starpharma's start-up/IPO management team

Nigel Baade, CFO

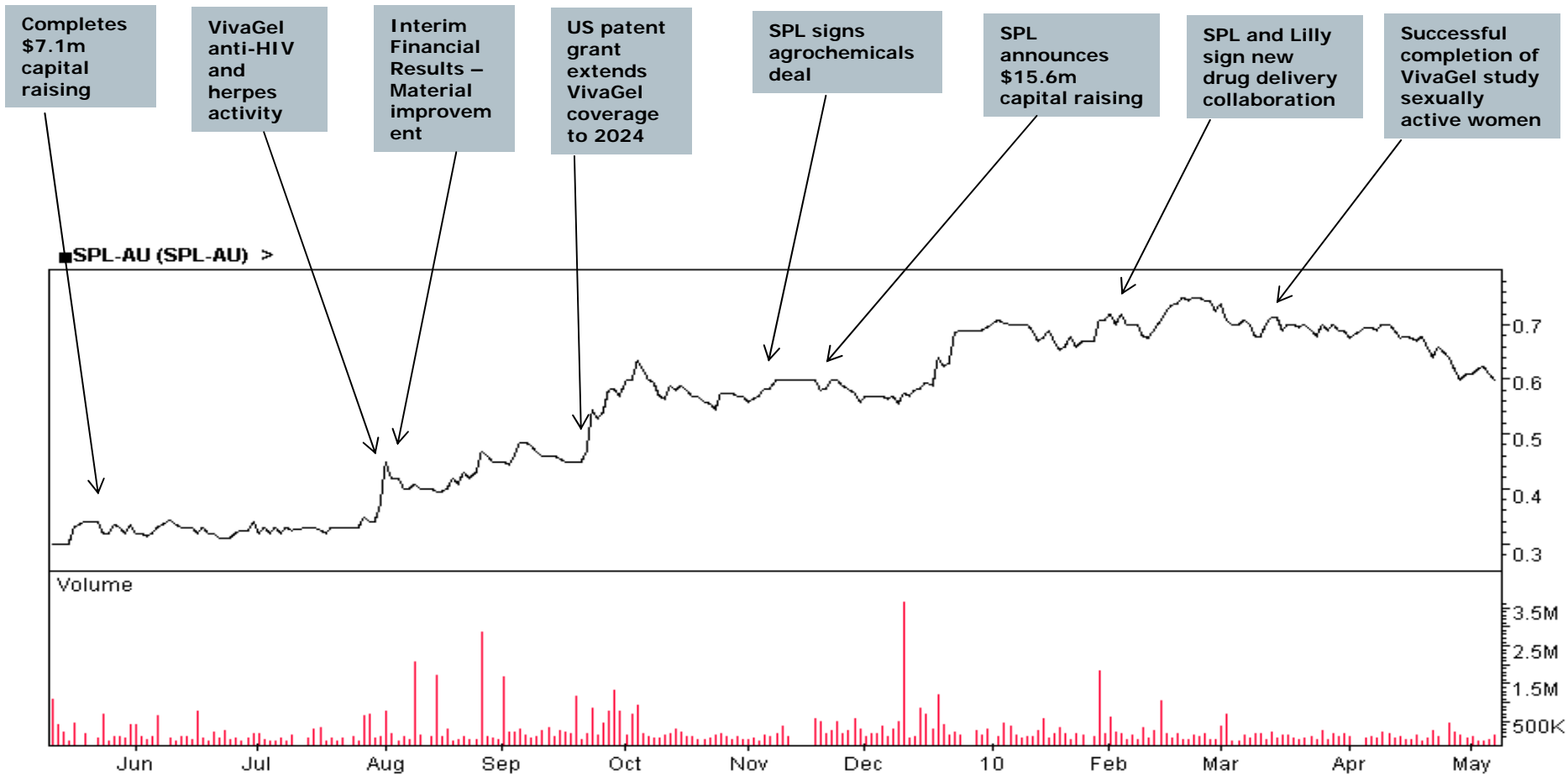
- CPA qualified accountant
- Experience in the pharmaceutical and biotechnology industries

**Roman Salij, VP Business
Development – DNT Inc.**

- 25 years Marketing & Business Development with Amoco Chemical, Motorola Inc, Cabot Microelectronics
- US based, Chem. Eng. and MBA

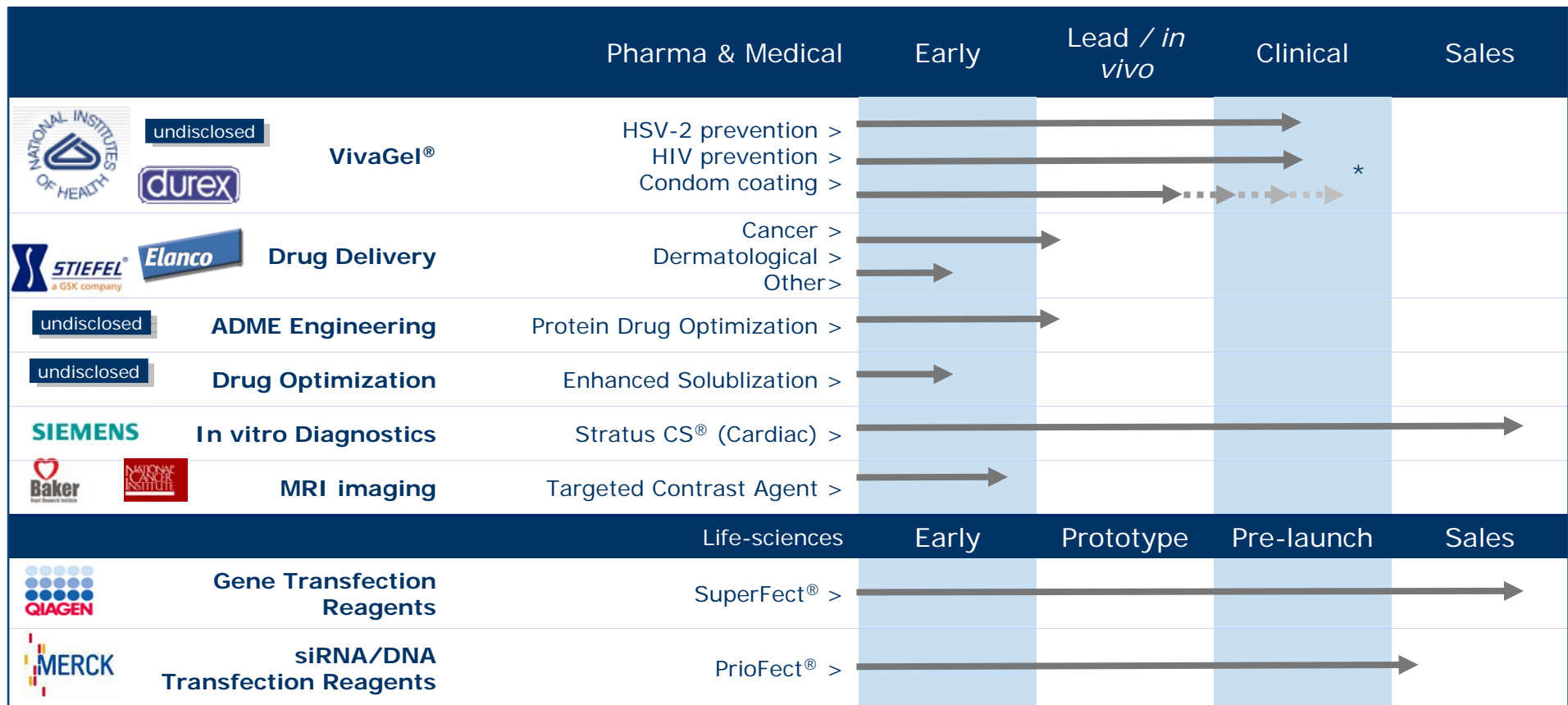


ASX: SPL Share Performance – 1 year





Pharmaceutical and Life Sciences Product Pipeline



+ Agrochemical deal with multi-billion dollar US Co.

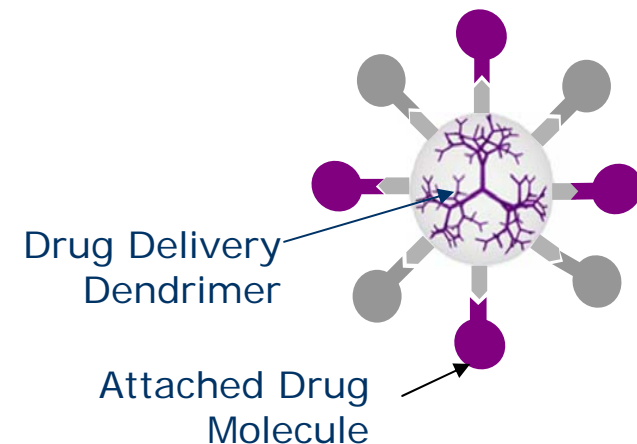
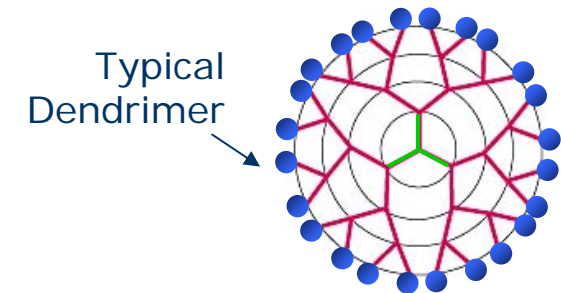
*Condom coating: accelerated development program

+ Other opportunities: Industrial, cosmetic, water treatment



Technology Overview : Dendrimers

- **Dendrimers are a special type of polymer:**
 - Small (millionths of a millimetre)
 - Versatile
 - Highly regular size and structure
 - Synthetic
 - Well tolerated pharmaceutically
- **Starpharma's unique dendrimer advantage:**
 - Dominant IP position
 - Unique, proprietary manufacturing process
 - First company to bring a dendrimer to the clinic (US-FDA)
 - World leading dendrimer synthesis and analysis team
- **Wide range of applications – medical & industrial:**
 - Active drugs (VivaGel®)
 - Drug delivery
 - Agrochemicals
 - Cosmetics, Research reagents
 - Materials and Coatings
 - Water remediation (US Dept. Defence funding)





Bacterial Vaginosis Clinical Development Program

Phase 2

- Dose ranging
N = ~120
- Test for clinical cure after 7 days; and
- Prevention of recurrence after 3 months

Phase 3

- Two pivotal efficacy studies
- N = ~200 per trial
- Test for clinical cure after 7 days, and
- Prevention of recurrence after 3 months



VivaGel®: Human Papilloma Virus (HPV) Activity

| | HPV-5 | HPV-6 | HPV-11 | HPV-16 | HPV-18 | HPV-31 | HPV-45 |
|--------------------------|---------------------|-------|--------|--------|--------|--------|--------|
| Genital warts | Cutaneous infection | ✓ | ✓ | | | | |
| Carcinoma | | | | ✓ | ✓ | ✓ | ✓ |
| Gardasil® | x | ✓ | ✓ | ✓ | ✓ | x | x |
| Cervarix® | x | x | x | ✓ | ✓ | x | x |
| VivaGel® SPL7013* | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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

Activity in HPV strains not currently addressed by existing vaccines



Commercial Opportunity for Microbicides – HSV-2

Genital Herpes represents a major health issue:

- Recurrent, lifelong viral infection
- Affects 22% sexually active adults in the USA and 15-20% in Europe
- 40-50% of women in the U.S. by 2025 (estimated)
- Existing prevention methods have proven ineffective and developmental vaccines disappointing
- Major risk factor for HIV: 38-60%* new HIV infections in females attributable to HSV-2
- Alternative prevention options are limited
- VivaGel® is the only microbicide being developed for Herpes prevention



70%

Percentage of female US college students who would buy a microbicide with STI and contraceptive properties

>20 million

Women in US who would use a microbicide

Independent Microbicide market estimates > \$1.5-3 Billion



VivaGel[®] Retention of Antiviral Activity After Vaginal Administration

Conclusion: Potent and sustained activity after Vaginal Administration

Objective:

- Assessment of antiviral (HIV, HSV-2) activity of VivaGel[®] in cervicovaginal fluid samples (CVS) taken immediately then 1,3,12,24 hrs after separate doses

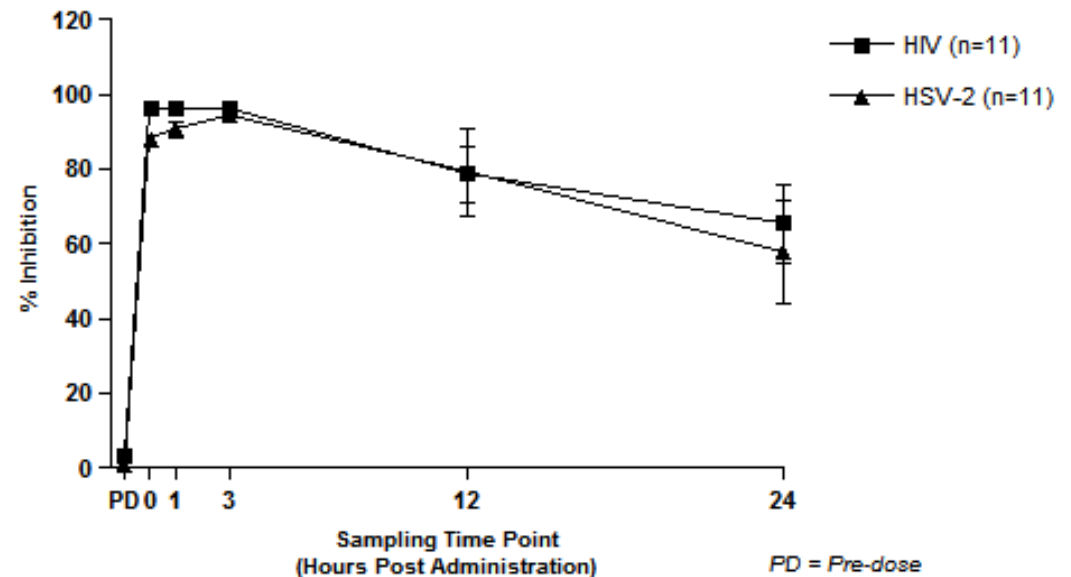
Results:

- CVS obtained immediately after administration of VivaGel[®] provided effectively complete inhibition of HIV and HSV infection *in vitro*;
- At 1 and 3 hrs following administration, initial high level of inhibition retained in 100% of women tested;
- Even at 12 and 24 hrs following administration, >90% of initial antiviral activity retained in >50% of women tested
- Safe, well tolerated

What it means:

- First study demonstrating potent antiviral activity of any microbicide beyond 1 hr post admin in humans;
- Potential for product to be applied hours before intercourse and remain effective (coitally-dissociated)

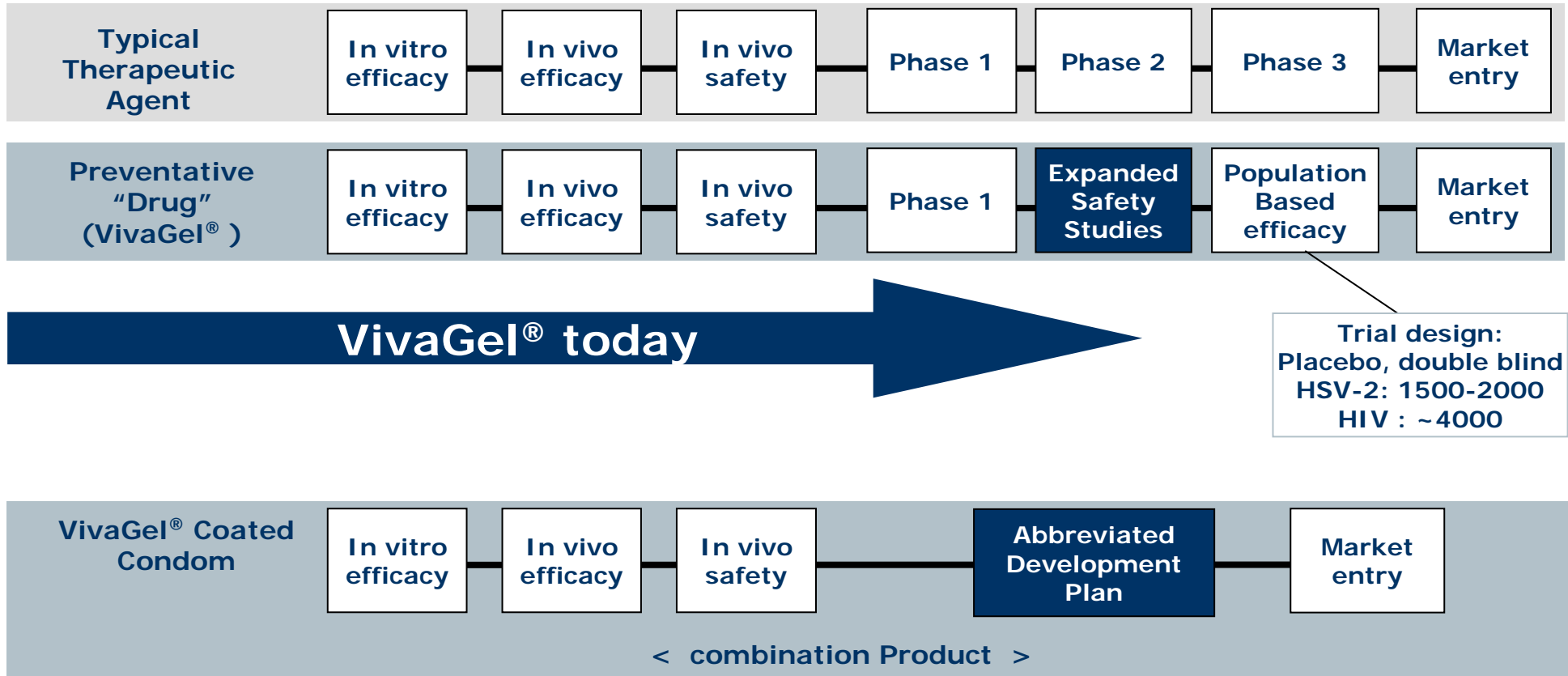
HIV and HSV-2 Inhibition *In Vitro*
Following Vaginal Administration of VivaGel[®] (mean \pm SEM)





VivaGel® - Development stage and plan

PRODUCT TYPE





VivaGel® Clinical Trials – Completed and Ongoing – March 2010

| Study | No. Subjects | Site(s) | IND Application | Status | Conclusion |
|---|--------------|----------------------|------------------------------|----------|--|
| Objectives: Safety, tolerability and PK Schedule: Administered vaginally, once daily for 7 days | 37 | Australia | Prevention of HIV | Complete | Safe and Well Tolerated |
| Objectives: Safety and acceptability Schedule: Administered to the penis once daily for 7 days | 37 | Australia | Prevention of HIV | Complete | Safe and Well Tolerated |
| Expanded safety and tolerability study Schedule: Administered twice daily for 14 days - sexually abstinent women | 54 | USA and Kenya | Prevention of genital herpes | Complete | Safe and Well Tolerated |
| Expanded safety and acceptability study Schedule: Administered twice daily for 14 days - sexually active women | 61 | USA and Puerto Rico | Prevention of HIV | Complete | Safe and Well tolerated |
| Objectives: Assessment of local retention of SPL7013 and timescale over which the product retains antiviral (HIV, HSV-2) activity after (0-24 hours) vaginal administration | 12 | Melbourne, Australia | Prevention of HIV | Complete | Potent and sustained HIV&HSV-2 activity Safe and well tolerated |



VivaGel's antiviral activity over time (human vaginal samples)

| Time Hrs | 0 | 1 | 3 | 12 | 24 |
|---|------------|------------|------------|-----------|-----------|
| HSV-2 | | | | | |
| Percentage of Women in which >90% antiviral activity retained | | 100% | 100% | 82% | 55% |
| Time Hrs | 0 | 1 | 3 | 12 | 24 |
| HIV | | | | | |
| Percentage of Women in which >90% antiviral activity retained | | 100% | 100% | 64% | 55% |
| Average dose (% of starting dose#) SPL7013 recovered | 48mg (46%) | 43mg (41%) | 22mg (21%) | 7mg (~7%) | 4mg (~4%) |

*Trial conducted under NIH funded contract at Nucleus Network, Alfred Hospital, Melbourne; n = 11.

starting dose 105mg



Strategy for Maximising Commercial Returns from Starpharma's Dendrimers

STARPHARMA

- Conduct proof of concept & enable partner evaluation
- Prove once, partner repeatedly

- BD goal - Sector-Leading partners

PARTNER

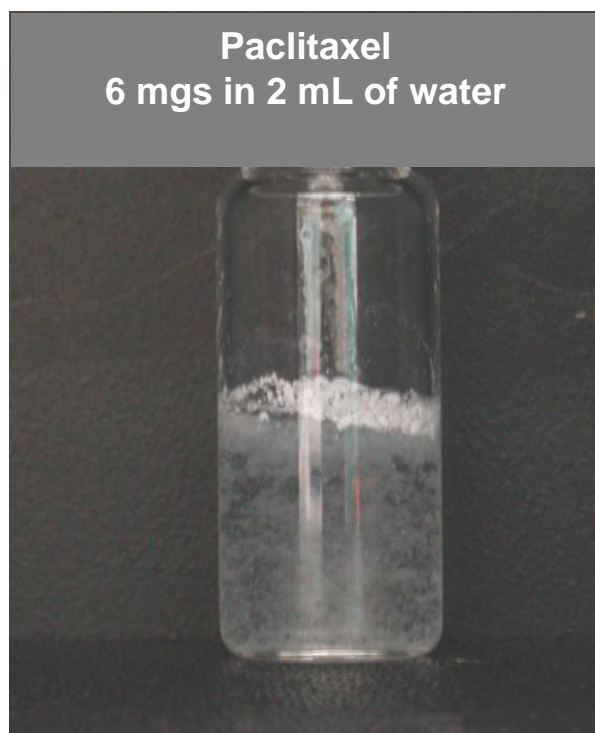
- Development funding
- Product expertise / market focus
- Existing sales force for fast market entry & roll out

Intense focus of resources on market-oriented development of platform
-> de-risked, wide application without loss of focus



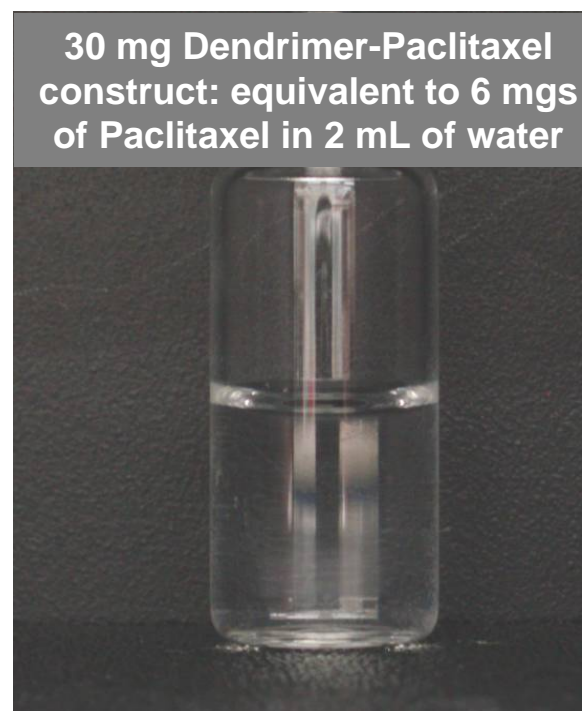
Application of Dendrimers to Drug Delivery - also relevant to Industrial/Ag Improved Solubility

Utilizing a dendrimer construct the aqueous solubility of the drug Paclitaxel was increased >9,000X.



Paclitaxel aqueous solubility 0.8 $\mu\text{g}/\text{mL}$ *

* *Bull Korean Chem Soc.* **1999**, Vol. 20, No 12, 1389 – 1390.

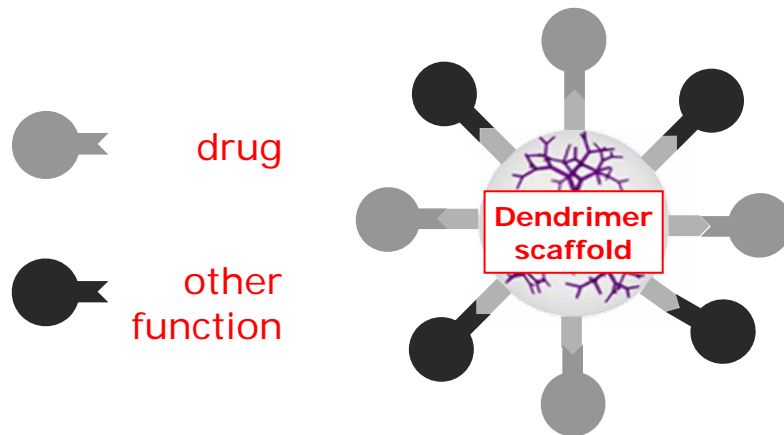


**SPL8278; 20% w/w Paclitaxel loading
aqueous solubility >37mg/mL**

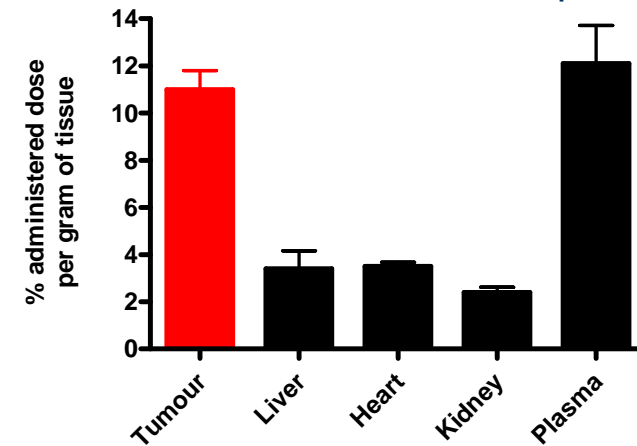


Small Molecule Drug Delivery

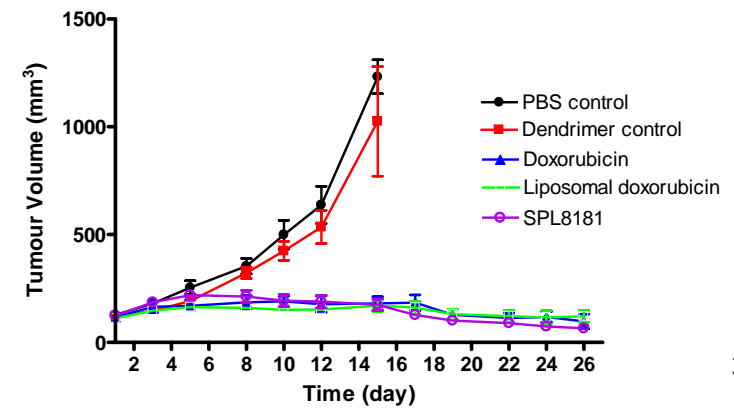
Efficacy - with reduced toxicity



Mouse Tissue Deposition



Breast Cancer Xenograft

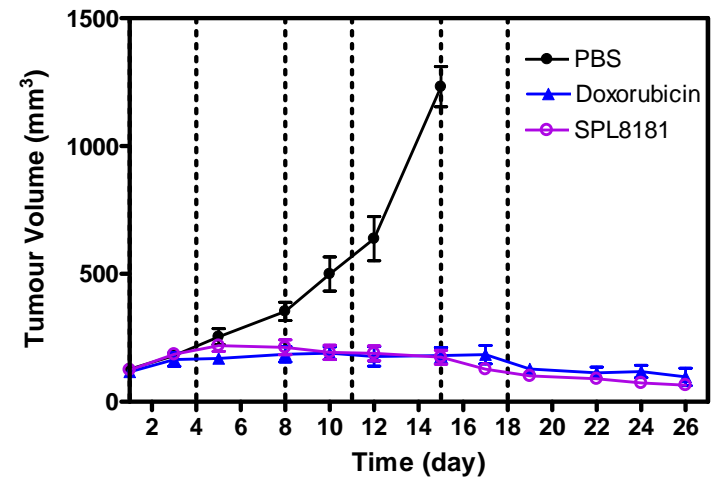
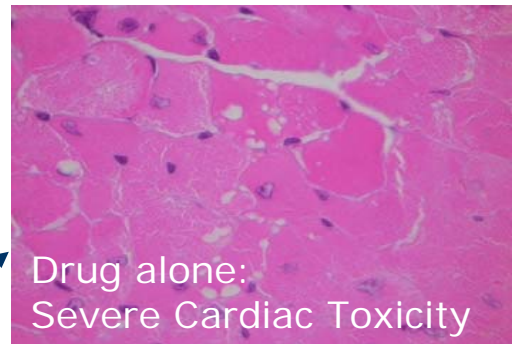
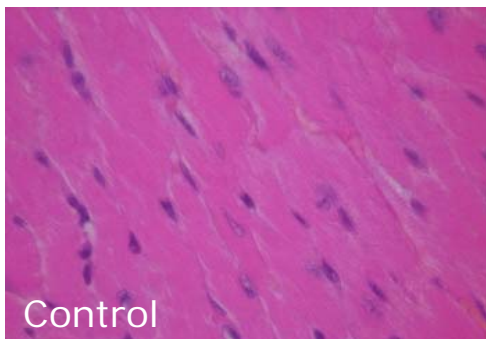




Dendrimers for Drug Delivery

Efficacy - with reduced toxicity

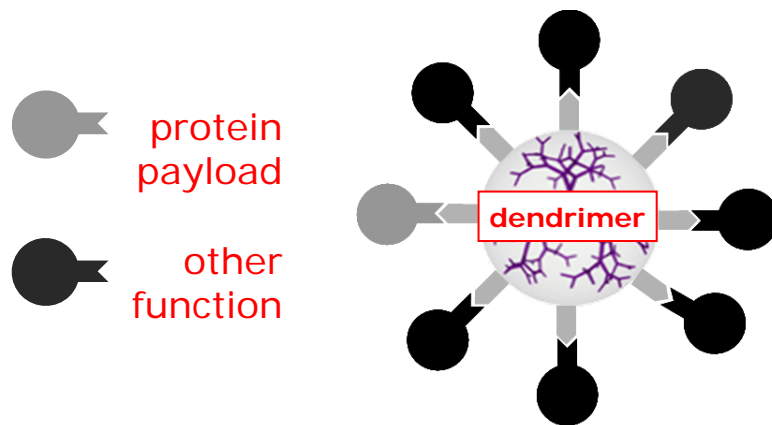
Cardiac toxicity of one of world's most widely used cancer drugs (doxorubicin) reduced markedly



...whilst preserving or enhancing drug function



Protein and Peptide Drug Delivery (ADME Engineering)



Approach

Conjugate protein or peptide to functionalised dendrimer

Benefit

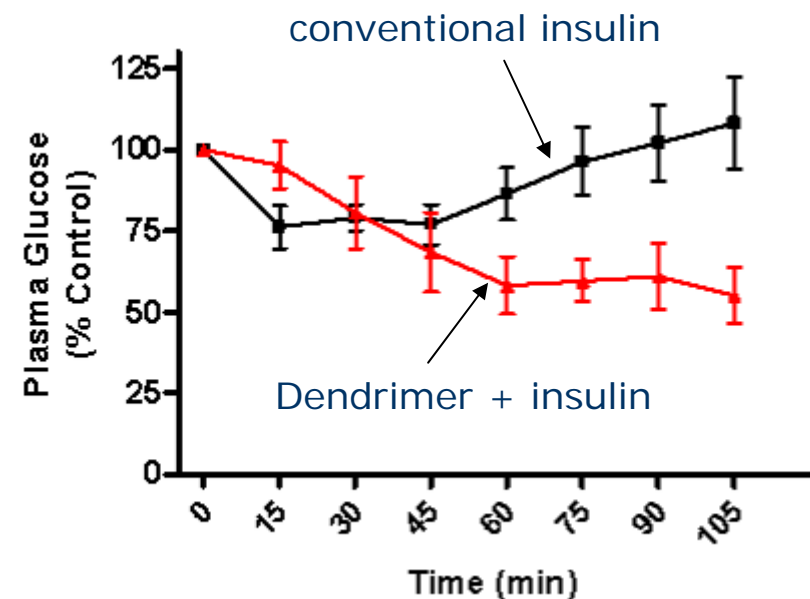
Control half life of protein or peptide therapeutics
Improve dosing regimen
Reduce protein metabolism

Status

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

Co-development program with undisclosed partner

In vivo mouse model



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



Portfolio: siRNA Delivery – PrioFect®

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

PrioFect® : a delivery agent for siRNA (“Transfection”)

siRNA : a means to achieve RNAi

- ...potential foundation for a whole new class of specific and potent drugs against diseases that are difficult to treat.
- ...a natural mechanism that the body uses to inhibit expression of certain genes.

Commercial opportunities for PrioFect®:

1. Research reagent market(\$200 million)
Licensed globally to EMD Biosciences*



Agreement includes royalties, supply and milestones
First product launched April 2008

2. Therapeutic/delivery application
Rights retained
Significant commercial potential for an effective delivery agent
Opportunity for multiple deals

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

Alnylam:

“The alliance could be valued at over 1 billion US dollars.....”

Roche website 2007



“Roche acquires Mirus...for RNAi delivery”

Transaction: USD125 million

Source: roche.com




* EMD Biosciences, Inc. is part of Merck KGaA, a global pharmaceutical and chemical company with sales of EUR 6.3 billion in 2006.



Competition in Development (No Marketed Competition)

| | VivaGel® | Pro2000 | Tenofovir / ARVs |
|--|----------|----------|--------------------|
| Being Developed under IND for both HIV and genital Herpes | Positive | Negative | Negative |
| Spectrum of clinically relevant HIV strains | Positive | Negative | Positive |
| Avoids virus developing resistance to active | Positive | Positive | Negative |
| Comprehensive development package; Scale up advanced | Positive | Negative | Data not available |
| Protects against cell-free and cell associated virus | Positive | Negative | Positive |
| Avoids systemic absorption of pharmaceutical | Positive | Negative | Negative |
| Single molecular entity simpler manufacturing / regulatory | Positive | Negative | Positive |

Key



Positive

Negative

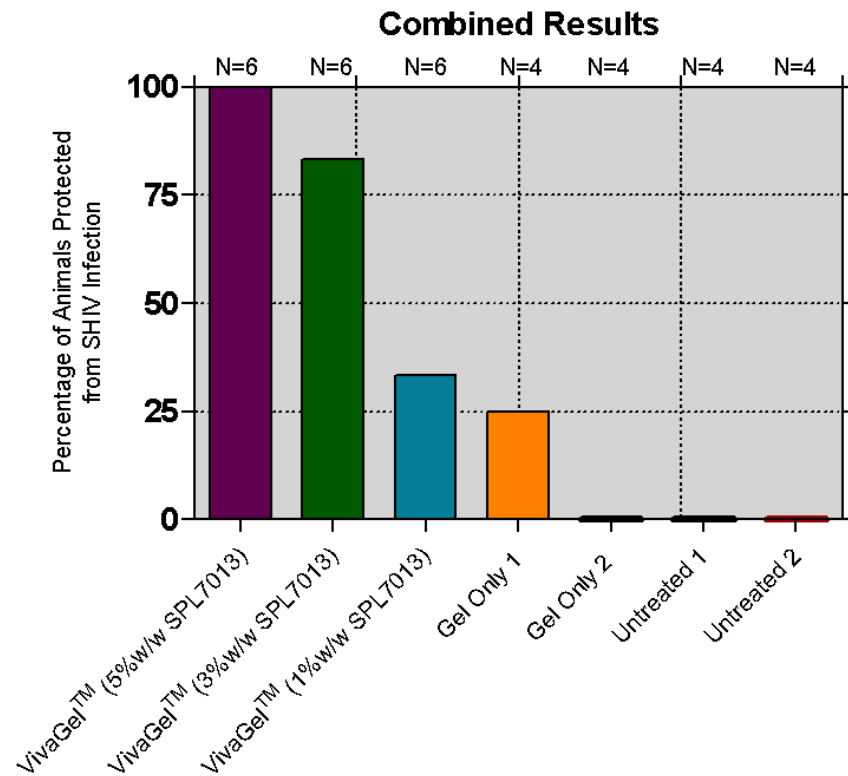
Data not available

For this reason the competing ARV class of microbicide has already been banned in a number of countries, even before it has been developed.

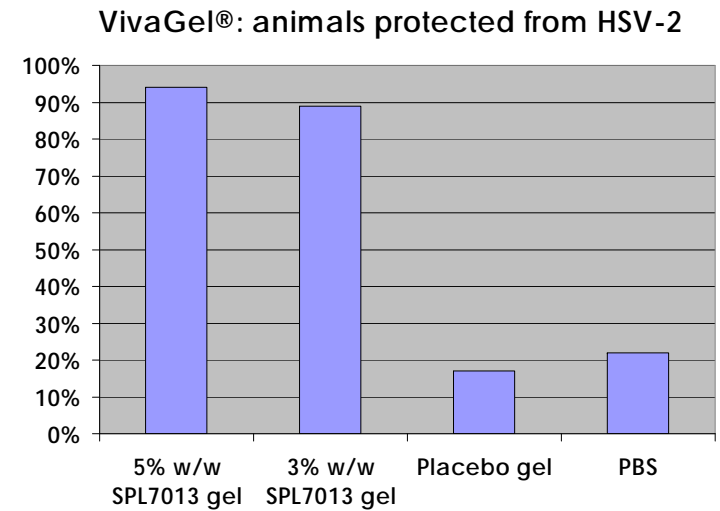


VivaGel®: Animal Efficacy results

SHIV/HIV Protection (primate)



Herpes Protection (guinea pig)



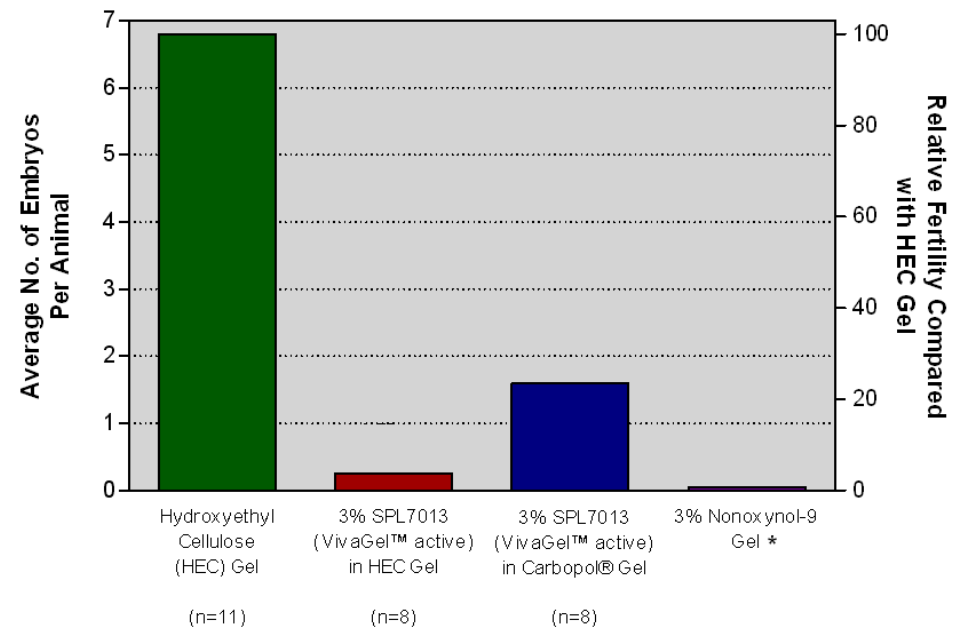


VivaGel®: Potent Contraceptive Activity in Rabbits

- Recent study has shown that SPL7013, the active ingredient in its VivaGel®, exhibits a potent contraceptive effect in rabbits
- Independent study undertaken at Johns Hopkins University under an NIH grant
- Fertility was reduced by more than 75% by SPL7013 in a VivaGel® formulation and 95% in a HEC gel compared with an inactive gel
- If contraceptive activity is confirmed in humans it would allow for development with contraception as an additional claim
- Findings relevant to both the stand-alone gel and condom coating opportunities

VivaGel®'s active ingredient is a potent contraceptive in animals

Average No. of Embryos Conceived Per Animal Following Application of Vaginal Gels, and % Relative Fertility in Active Gel-Treated Rabbits Compared with HEC Control



* N-9 figure based on published historical data, Castle et al, *Contraception* 1998;58:51-60, and Zeitlin et al, *Sexually Transmitted Diseases*, 2001;28:417-23