

Starpharma Holdings Limited

Annual General Meeting 16 November 2005



### Chairman's Address

# Peter Bartels Chairman



#### **Chairman's Address**

# Annual General Meeting of Starpharma Holdings Limited

#### Wednesday 16 November 2005

As I prepare to present my third Chairman's address for Starpharma, there is a buzz of excitement among senior management and increasingly much improved sentiment in the biotechnology sector as a whole.

And having reviewed the basis of their enthusiasm, I can say that it's well placed.

Starpharma has achieved some seminal achievements over the previous 12 months.

I plan to touch on a few of them, but as has become the tradition at Starpharma AGMs, I'll leave it to CEO John Raff to describe events in more detail, and today we'll also hear from Jackie Fairley our new Chief Operating Officer.

Last year, my address centred on the theme of Starpharma's relative positioning, in both the Australian and the global biotechnology contexts.

Based on performance indicators such as recognition by international peers and number of patents, Starpharma was clearly in a very strong position in Australia and a significant world player.

By all indications, we have strengthened that position as our lead product, VivaGel, continues smoothly along the path to commercialisation.

Such progress is a credit to management and staff, as this path can be littered with proverbial potholes for the unsuspecting traveller.

#### <u>Funding</u>

On the funding front, the US National Institutes of Health has delivered good news for the second year running. Those who heard me speak last year may recall that Starpharma had just received 7.5 million dollars from the NIH to lead a consortium of Australian and US research groups to accelerate the clinical development of VivaGel.

Fast-forward almost 12 months, and we recently received record funding for an Australian biotech from the NIH of more than \$26 million for the development of VivaGel.

As a result, VivaGel for HIV is now totally funded through to Phase 3 by external, that is, non-shareholder, sources. This is a very satisfactory position for a company such as Starpharma to achieve.

Funding can be a tricky business, it's not only the actual dollars that are important.

The funding process itself lends unsurpassed peer support to Starpharma's science and its approach to commercialisation. The NIH grant was awarded only after an independent international panel scrutinized the application – in a competitive bid situation – they made the favourable recommendation.

It's not possible to buy that sort of international good will in medical research circles.

We received additional support from the Australian Government for the development of Starpharma's dendrimers as new pharmaceuticals. The grant was part of the

Pharmaceuticals Partnerships Program which Federal Minister Ian Macfarlane chose to announce during a visit to Starpharma's operation in Melbourne. This grant is worth up to \$5.6 million over 4 years.

#### Capital raising

Two day's ago on Monday we announced that we had raised \$12 million through a Share Placement with new and current shareholders. We are concurrently offering a Share Purchase Plan to all shareholders which we expect will raise an additional \$3 million.

The placement was particularly pleasing as we saw many of our existing institutional shareholders increase their equity in the company and we attracted some of Australia's leading institutions to also participate. In all, large institutional investors contributed more than 70% of the money raised. John Raff will talk more about this later.

#### Senior personnel and the board

I have sung the praises of John Raff in the past. He's that rare breed of scientist blended with commercialism that has the right mix of qualities needed to take Starpharma forward in a highly competitive market sector.

Others have described him succinctly as a "successful biotechnology entrepreneur".

John has added some excellent new members to the management team which must surely be the envy of many a biotech organisation.

With the appointment of Jackie Fairley as the new COO and Paul Barrett in the role of business development manager, the quality of our management is second to none.

Jackie joined Starpharma at the time our development was taking the company in the direction of internationalisation and its attendant growth. She encapsulates precisely the qualities that the board had in mind when it first considered the COO's position description. We are fortunate to have her on board.

#### <u>Partnerships</u>

No company can operate in isolation. Starpharma recognised early in the piece the importance of establishing business and research relations and have maintained that culture.

We have substantial equity in two companies that complement our technology – 33% in US-based Dendritic Nanotechnologies and 22% in Australian Dimerix Bioscience, a specialist drug development company.

In research, our broadening relationship with the NIH brings with it access to key investigators and opinion leaders in our field of interest.

In this regard Starpharma's recent record speaks for itself.

I'll close by saying how fulfilling I find my role as chairman and my association with Starpharma at this important stage of the company's development.

I feel proud to lead a company with such dedicated people at all levels.

I'll now pass the baton to Dr John Raff before we proceed with the formal business on the agenda.

#### Peter T Bartels, AO



# Starpharma: Positioned for Success

# John Raff Chief Executive Officer

### 2004 / 2005: The Year in Review



September	\$US5.4M NIH funding for ComboGel™
September	

April \$5.5M P3 product development	grant
-------------------------------------	-------

May Investee company DNT announces breakthrough Priostar™ technology
--

June US ADRs: > 5% of Starpharma equity

September NCI comprehensive funding of DNT ovarian cancer detection

October A\$26.4m non-dilutive NIH funding to develop VivaGel™

October Exchanged 25% royalty stream on VivaGel™ etc for 7.11M shares

November Oversubscribed institutional placement raises \$12M

# Starpharma: Positioned for Success



Financially secure	$\checkmark$
Non-dilutive, external funding for VivaGel™ in place	$\checkmark$
VivaGel™ Phase I trial successful; further human trials scheduled and funded	$\checkmark$
Dendrimer platform yielding multiple commercial opportunities	$\checkmark$
Exceptional uptake of US ADRs	$\checkmark$
Valuable equity and strategic holding in DNT	$\checkmark$
Experienced management team	$\checkmark$

#### Share Placement and SPP



#### Two-Part Placement

- Offer of 23.5m shares to raise \$12 million
- Issue price of \$0.51
- 9.6m shares (\$4.9m) immediately under 15% rule
- 13.9m shares (\$7.1m) subject to shareholder approval

#### Share Purchase Plan

- Underwritten Offer of 5.9m shares to raise \$3 million
- Issue price of \$0.51
- Investors in the first tranche of the placement will be able to participate in the SPP
- Underwritten by Patersons Securities Limited
- Underwriting subject to shareholder approval

Use of Funds
Product Pipeline Development
DNT Collaborative Activities
Overheads and Working Capital

# **Indicative Timetable**



Announce A\$15M Placement and SPP	14 November
Settlement of first tranche of Placement shares	17 November
Placement shares listed on ASX	18 November
Record date for SPP	18 November
SPP offer opens	21 November
Closing Date for SPP	15 December
Shareholder meeting to approve second tranche of Placement and SPP underwriting shares	16 December
Settlement of second tranche of Placement shares and SPP shortfall (if any)	20 December
SPP and second tranche of Placement shares listed on ASX	23 December

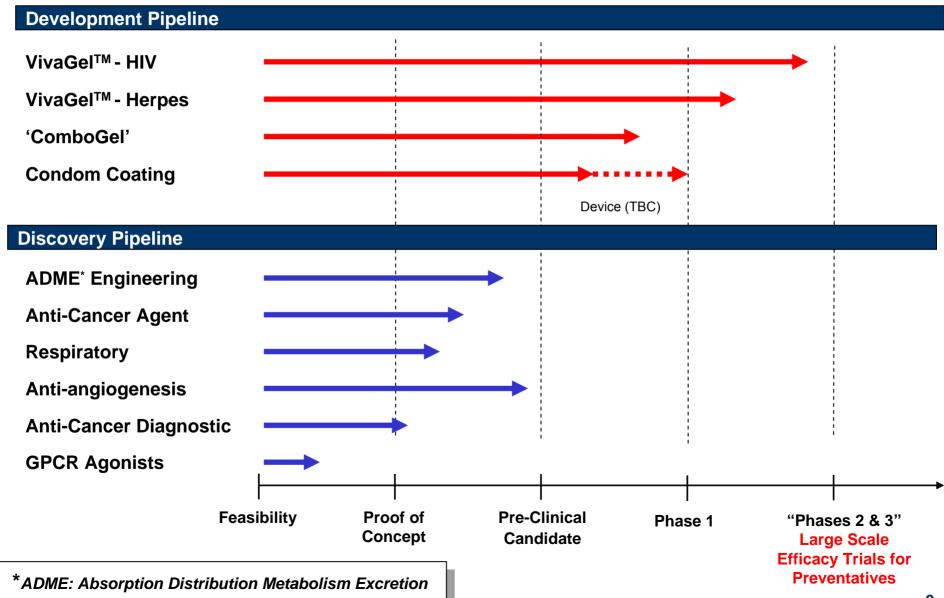


Starpharma's Projects



## Starpharma's Pipeline





# DNT is a Valuable and Strategic Asset



- SPL has a 33% holding in a private US company Dendritic Nanotechnologies Inc (DNT)
- DNT is a valuable, but as yet not externally priced, company
  - Existing revenue streams from deals with leading pharmaceutical and biotechnology companies including Pfizer Inc; Sigma Aldrich; General Dynamics Corporation, US Dept. Defense etc
  - Licensed two products generating royalty income
  - DNT recently announced major contract with NCI to fund its ovarian cancer diagnostic dev't.
  - DNT is currently developing a number of products for near-term licensing and an exciting new synthetic methodology (Priostar™) for generating dendrimers cheaper and faster
- The DOW Chemical Company transferred its entire intellectual property portfolio in dendrimers to DNT in exchange for a 30% equity holding
- SPL has exclusive commercialisation rights to DNT's technology for nanopharmaceuticals
- SPL believes the market has not yet realised the value of its equity holding in DNT: Listed companies on Nasdaq developing nanomaterials have market caps of between US\$80m – US\$190m

#### **MCaps of Listed US Nanomaterials Companies**

COMPANY	MCap (US\$m)
Orthovita	190
Altair	168
Nanogen	157
Nanophase	106
Lumera	81
Isonics	79



VivaGel™: A compelling commercial opportunity

# Jackie Fairley Chief Operating Officer

### VivaGel<sup>™</sup> – Lead Product for Prevention of STIs



- VivaGel<sup>™</sup> is a microbicide being developed to prevent sexually transmitted infections (STIs) in women
- VivaGel<sup>™</sup> is a gel-based formulation with a nanotech active, delivered privately via an applicator prior to sexual activity

VivaGel<sup>™</sup> packaged into pre-filled applicators.



- The active ingredient of VivaGel<sup>™</sup> (SPL7013) inactivates HIV and HSV-2 (genital herpes) virus by binding with the virus preventing it attaching to the host
- Vaccines against HIV and genital herpes have thus far failed and there is a significant and growing recognition that microbicides offer the best alternative

## HIV – A Preventable, Life Threatening Disease



- Human Immunodeficiency Virus (HIV) is the virus that causes AIDS (Acquired Immune Deficiency Syndrome)
- AIDS is the most serious stage of the HIV infection, it results from the destruction of the infected person's immune system
- No cure for HIV/AIDS
- HIV may be transmitted by individuals that are asymptomatic
- 37,000,000 adults living with HIV; every day 7,000 women are newly infected
- Existing prevention methods to reduce the risk of infection have proven relatively ineffective:
  - Condoms (male controlled, cultural implications, user reservations)
  - More than 50 HIV vaccines have failed and estimates are that an effective vaccine is many years away

## Microbicide Development Act 2005: US Senate



The Microbicide Development Act 2005 introduced by H Clinton et al.

"It is estimated that by age 25 half of all sexually active people in the United States can expect to be infected with a sexually transmitted disease (STD) "

HIV and AIDS (in the US): "Direct medical costs of up to \$15.5 billion per annum"

"AIDS is the number one cause of death in African-American women aged 25-34"

""HIV prevention options as of 2005 are not enough" best option...technologies like microbicides which women can initiate and control"

"The US Government is firmly committed to the development of safe and effective microbicides"

## SPL Awarded US\$20.3m Funding from the NIH



#### A\$26m+ of nondilutive funding

- Funding is provided without any downstream commercial obligations on future revenues generated from VivaGel<sup>TM</sup>
- Funding will allow Starpharma to take product to market itself or secure a late-stage licensing deal

# Strong Endorsement of VivaGel<sup>TM</sup>

- The National Institutes of Health (NIH) is one of the most significant research organisations in the world
- Following a 12+ month evaluation period NIH selected VivaGel<sup>™</sup> as the candidate for development support

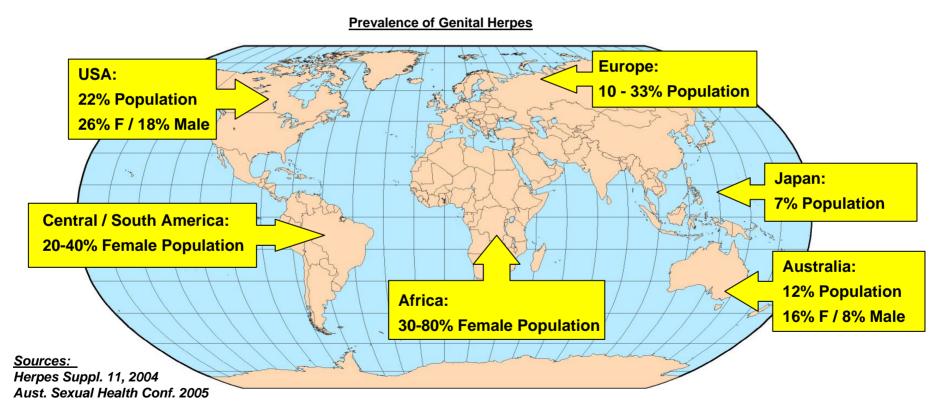
# Significantly 'de-risks' VivaGel<sup>TM</sup>

- NIH funding will support VivaGel's non-clinical and clinical development including scale-up manufacturing through to the final large-scale population study
- In addition to the funding, the NIH relationship ensures Starpharma can access world-class clinical development expertise, key clinicians and opinion leaders

# Genital Herpes – Large and Growing Market



- 22% of the US adult population has genital herpes; Est. cost (US) >\$1.5B pa
- Without intervention the prevalence of genital herpes in the US is expected to increase to 39% of men and 49% of women by 2025



# Genital Herpes – Nasty, Incurable Disease



- Infection is life-long, drugs do not cure
- Results in painful blisters/ulcers
  - Ulcers last 3-4 weeks; 4-5 ulcerative episodes p.a
- Frequently causes anxiety and depression in affected individuals
- Increases affected individuals' risk of HIV infection by 4-8x
- May be transmitted by individuals who have no visible ulcers
- Transmissible at birth:
  - Occular, neurological and respiratory disease
  - Long term complications in 40%; death in 14%
- Existing prevention methods (condoms and vaccines) to reduce the risk of infection have proven relatively ineffective





# VivaGel<sup>TM</sup> – Exciting Product Showing Excellent Results starpharma



**Product Offers Several Key** Advantages

Gel applications have significantly better take-up than condoms

Female controlled, discreet and convenient

Compelling competitive advantages: efficacy; non-irritant; broad activity

Compatible with condoms

**Excellent Clinical** Results in Human and Primate **Trials** 

Human trials: VivaGel<sup>TM</sup> is non-toxic and non-irritating

Potent activity in relevant HIV strains in very tough primate trials

Potent activity against other STIs including herpes in animal trials

Viruses appear not to develop resistance to VivaGel<sup>TM</sup>

**Excellent Drug Characteristics**  Lower risk development – Topical gel, external to body

Affordable – Low manufacturing costs

Excellent IP position

Passes key FDA hurdle – Well defined chemical entity

# Developed Countries: Market opportunity for microbicides



	Average Frequency of Use per Annum			
Market Penetration	25x	50x	100x	
2.5%	US\$365m	US\$730m	US\$1460m	
5.0%	US\$725m	US\$1450m	US\$2900m	
10.0%	US\$1450m	US\$2900m	US\$5800m	

#### Key assumptions

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

# VivaGel<sup>™</sup> – Excellent Market Opportunities



■ Starpharma is currently focused on four commercial applications of VivaGel™

Product	VivaGel <sup>™</sup> HIV Prevention	VivaGel <sup>™</sup> Genital Herpes Prevention	Premium Condoms	'ComboGel'
	Topical Microbicide	Topical Microbicide	Microbicide Condom Coating	Combination Microbicide & Contraceptive
Est. Market Size	> US\$1bn	> US\$1bn	\$US300-500M	> US\$1.5bn
Path to Market	IND  De-risked via NIH funding	IND  Costs reduced and derisked by utilising HIV safety studies	Device Likely less onerous regulatory path	IND  De-risked via NIH funding
Est. Market Entry	~ 2H 2008	~ 1-2H 2008	2H 2007 Depends on Partner	> 1H 2009

Starpharma is targeting several significant market opportunities

## Starpharma: Value Highlights



# Strong financial position

Successful institutional placement raised \$12M (>2 years cash)

#### **NIH Funding**

- US\$20.3m of non-diluting funding
- Significant validation of the technology
- Funding de-risks development

# **Expected News flow**

- International and domestic human trials ("Phase 2") of VivaGel<sup>TM</sup> for HIV and VivaGel<sup>TM</sup> for Herpes in the first half of 2006
- Strong probability of additional non-dilutive funding from international health organisations and commercial announcements (Starpharma and DNT)

# Market opportunities

 Initial applications target HIV and genital herpes: significant problems in developed and developing nations – multibillion \$

#### Valuable Assets

- Equity stake in Dendrimer Nanotechnologies (DNT) and Dimerix
- Breadth and quality of dendrimer pipeline



Starpharma Holdings Limited



**Appendices** 



## Discovery Projects Overview



#### ADME Engineering™

- Use of dendrimers to improve pharmacokinetics and safety of existing small molecule drugs and protein therapeutics
- Potential as patent extension mechanism, improved dose efficiency

#### Anticancer Agent

Specific example of ADME engineering of existing anticancer drug to modify the pharmacokinetic and safety profile

#### Respiratory

- Dendrimers for the treatment/prevention of RSV and other respiratory pathogens eg. influenza, exotic viruses
- A natural extension of Starpharma's antiviral expertise.

#### Anti-angiogenesis Agent

- In vivo efficacy demonstrated
- Potential for local delivery reducing dosing load and frequency
- Non-cancer applications include: AMD, diabetic retinopathy, macular oedema.

#### Anti-cancer Diagnostic

- Faster and clearer imaging of cancer
- Proof of concept studies underway in solid tumours

#### GPCR Agonist, eg Cancer

Polyvalent engineering of existing small molecule GPCR ligands to improve efficacy and reduce toxicity.

# VivaGel<sup>™</sup> – Significant Advantages Over Competitors



	Competitor Products	Key Disadvantages	VivaGel™ Advantages
Significant Advantages over Other Products in Development*  *As demonstrated by NIH selecting VivaGelTM	Surfactants / Detergents	• Increases the risk of infection by HIV and other viruses	<ul> <li>No surfactant properties: Does not increase infection risk (non-irritant)</li> </ul>
	Sulphated Carbohydrates	Not active against clinical HIV strains	Highly active against all HIV strains tested
	Reverse Transcript. Inhibitors and other anti-viral drugs	<ul> <li>Drug resistance is an issue</li> <li>Primary mode of action requires infection process to have begun</li> <li>Not active against herpes</li> </ul>	<ul> <li>Very high barrier to development of viral resistance</li> <li>Primary mode of action is prevention of virus attachment</li> <li>Potent activity against herpes</li> </ul>
	Sulphated Polymers	<ul> <li>High cost of synthesis</li> <li>Poor characterisation of the drug substance</li> </ul>	<ul> <li>Excellent drug characteristics:</li> <li>Low manufacturing costs</li> <li>Stable, well defined entity</li> </ul>
	Acidity Control (buffering agents)	Acidity control: sufficient protection as mono-therapy?	• Potent activity against HIV and HSV-2 in animal models; non-irritant