Benitec

LEADER IN GENE SILENCING TECHNOLOGY

Annual General Meeting Presentation

18 November 2009

Benitec Ltd Overview

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Benitec was formed in 1997 to commercialise the application of RNA interference using its proprietary ddRNAi technology. Benitec exists to generate value through the commercialisation of ddRNAi in the area of human therapeutics.

Achievements 2009

•Capital raising in difficult times
•Progressed R&D projects - HIV
•New R&D Projects commenced – HBV, Cancer
•Progress in Patent Reexam
•Patent prosecution and maintenance – grant and filings

Investment highlights

- International, royalty-generating IP estate covering seminal patents in DNA-directed RNA interference (ddRNAi)
- Focused on commercially attractive, life-threatening diseases in major cancer and infectious disease indications
- Lead product in human trials targeting HIV/AIDS - promising results
- Third party validation through licensing deals and collaborations with industry-leading partners for research, commercial and therapeutic uses of ddRNAi.
- RNAi field validated by recent acquisitions and collaborations with big Pharma

Technology and Pipeline

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RNAi Technology

- Enabling technology
- DNA directed or vector expressed RNA interference (ddRNAi) is a method of inducing RNAi – “switching” off bad genes
- RNAi is a natural cellular mechanism that selectively negates the effect of any gene by destroying mRNA, the courier that delivers instructions from a gene to manufacture a protein.
- Suppression of protein synthesis offers a revolutionary new approach to controlling many diseases.
- RNAi interrupts protein synthesis by selectively destroying mRNA, “knocking down” or “silencing” the target gene

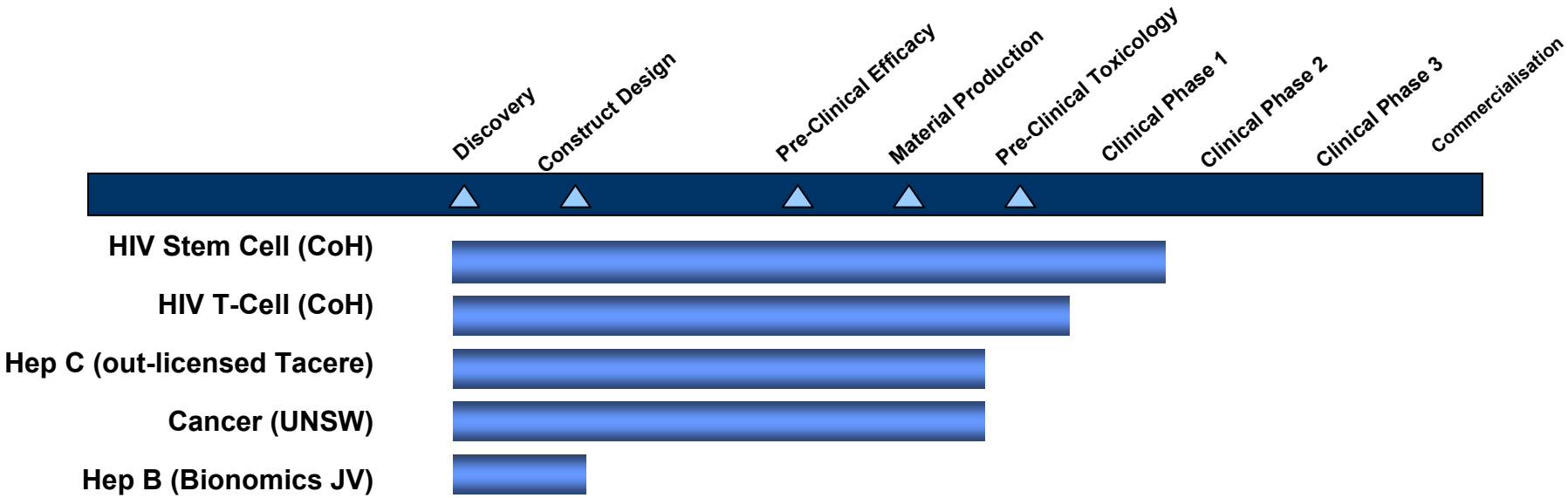
Development Strategy

Programs aimed at proof of concept (ddRNAi and shRNA) in commercially attractive areas to support out-licensing in non-core areas, e.g. CNS, Cardiovascular.

Internal focus on ddRNAi preferable for long-term gene silencing in life threatening chronic conditions.

Proprietary program in infectious diseases and cancer leverage in-house and collaborator expertise in these areas

- Significant unmet medical needs
- Potential for “fast track” regulatory pathway
- Technology differentiated from siRNA



Benitec ddRNAi Advantages

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- **Gene silencing effective at lower doses and longer term than siRNA**
  - Catalytic dsRNA production potentially critical in targeting infectious agents
  - siRNA molecule could become rate-limiting for quickly replicating viruses

- **Single payload can target multiple mRNAs**
  - Particularly relevant to diseases characterized by high mutation rates, i.e. cancers and HIV/AIDS which inevitably result in the emergence of resistance to single drugs.

- **Flexible delivery options**
  - Plasmid in liposome
  - Viral vectors
  - Synthetic targeted vectors
  - Stem cells

- **High target affinity to specific tissues addresses limitations of siRNA by allowing for specific inactivation of key genes in a diseased tissue**

- **Potential for lower cost of goods and easier manufacturing compared with siRNA**
  - siRNA requires modifications to produce more stable RNA and avoid off target effects

Dominant International RNAi IP

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"Most of the IP in (RNAi) is owned by Benitec…Benitec lays claim to a seminal US patent… that describes 'genetic constructs for delaying or repressing the expression of a target gene'"

-Nature Biotechnology, *"Negotiating the RNAi patent thicket" (March 2007)*

- **First company to demonstrate RNAi in human cells as ddRNAi pioneer**
- **Dominant international IP position in RNAi human therapeutics**
- **Core U.S. and U.K. technology patents granted in 2003**
  - Cover method for silencing any gene in any cell using ddRNAi
  - World's first claims describing RNAi effects in human cells and DNA constructs that trigger RNAi
- **Core Patents granted in Australia, Canada, Czech Republic, Great Britain, Hong Kong, New Zealand, Singapore, South Africa, and United States (under re-exam)**
- **105 patents and patent applications**

HIV/AIDS

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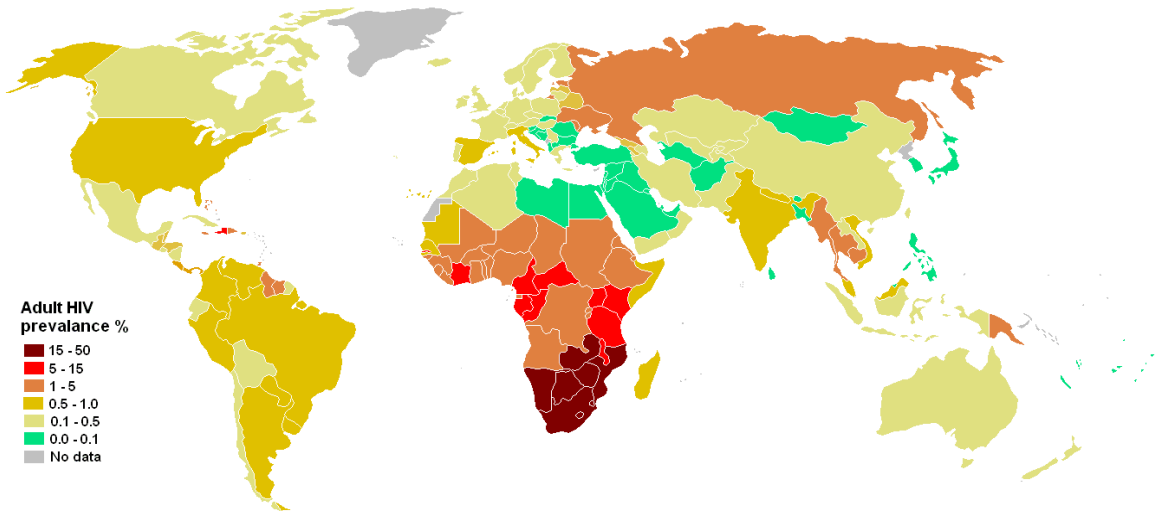
- **The HIV/AIDS market is currently valued at $6.8 billion and is projected to grow to at least $10 billion by 2014.**

- **Although current treatment regimens may slow the replication rate of the HIV virus they are not curative, and the emergence of drug resistant HIV virus continues to be a major clinical problem**



HIV/AIDS

Molecular targets rHIV7-shI-TAR-CCR5RZ

- •HIV genome
- •Cell-surface receptor
- •Replication machinery

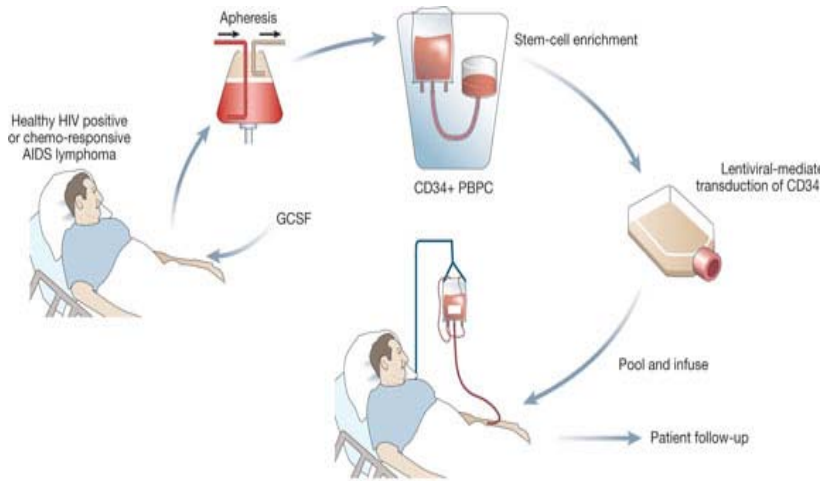
Stem cell project- Phase I safety and feasibility study in AIDS lymphoma

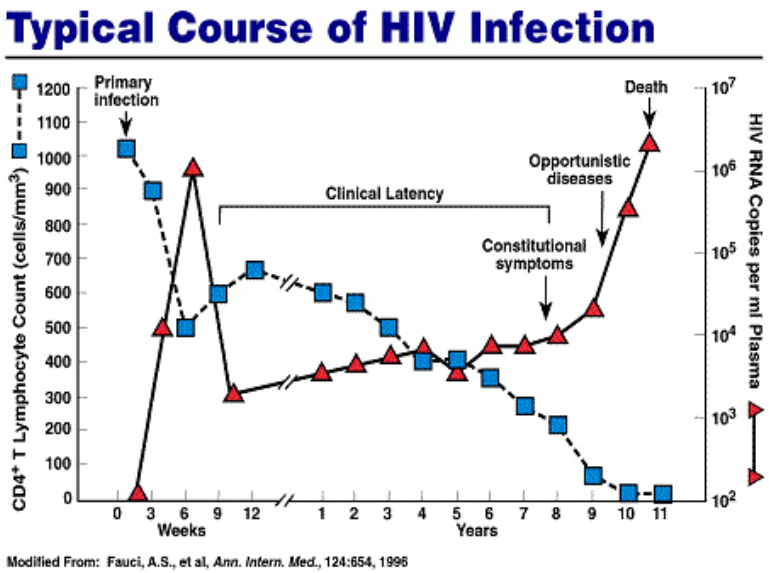
Evaluating stem cells treated with lentivirus vector-encoding multiple anti-HIV RNA's

- •1st human clinical trial using lentiviral vector transduction of HSCs.
- •1st human trial with expressed RNA interference trigger (shRNA).
- •1st triple gene therapy combination trial for HIV/AIDS.
- •IND filed (Jan 2007)
- •First human clinical trial (initiated Q307)
- •Trial fully enrolled –October 2008
- •Interim results show this approach is safe and feasible
- •Follow up study under development

T cell project

- •Same vector using T cells
- •IND Q4 2009
- •Phase I Q4 2009





Hepatitis B Program

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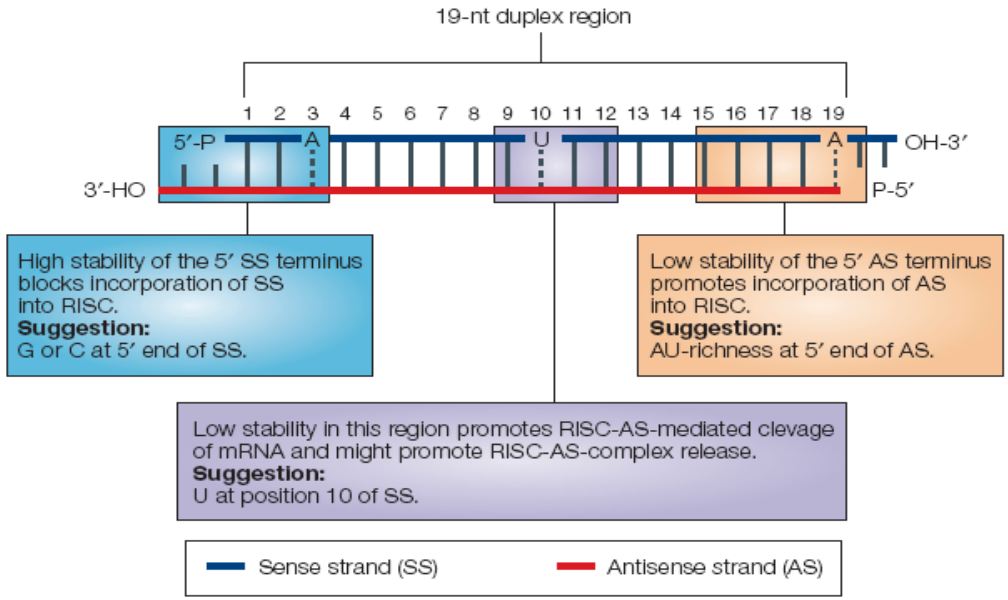
Hepatitis B

- In the USA alone there are over 1.25 million people living with the consequences of chronic active HBV, and over 60,000 new cases per year.
- The severe pathological consequences of persistent HBV infections include the development of chronic hepatic insufficiency, cirrhosis, and hepatocellular carcinoma.
- Persons with chronic HBV infection ("carriers" - worldwide about 350-400 million people) have a 12 to 300 times higher risk of developing hepatocellular carcinoma than non-carriers and globally HBV causes 60-80% of the world's primary liver cancers.
- Every year about 25% of the over 4 million acute clinical cases (i.e. 1 million people worldwide) die from chronic active hepatitis, cirrhosis or HBV-induced liver cancer.



Collaboration with Biomics (Nantong ,China)

Initial Phase is a 20 week program (commenced September 2009) to identify appropriate target sequences on the RNA-dependent-DNA-polymerase gene which can be used to make ddRNAi constructs.

NSCLC program

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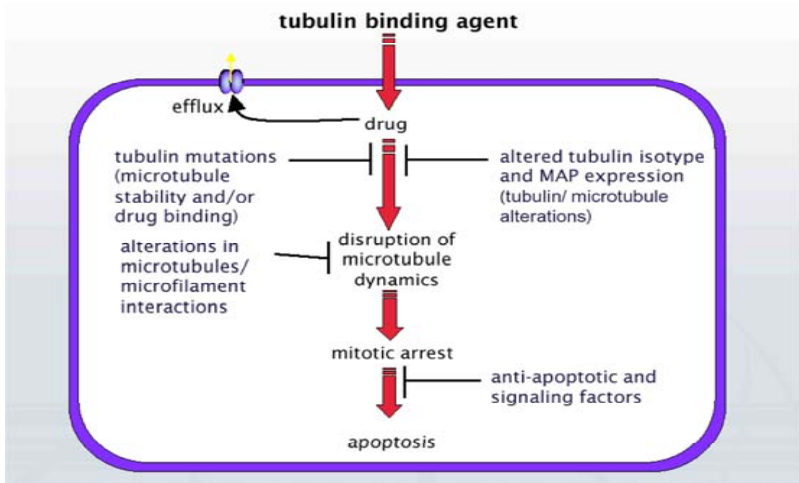
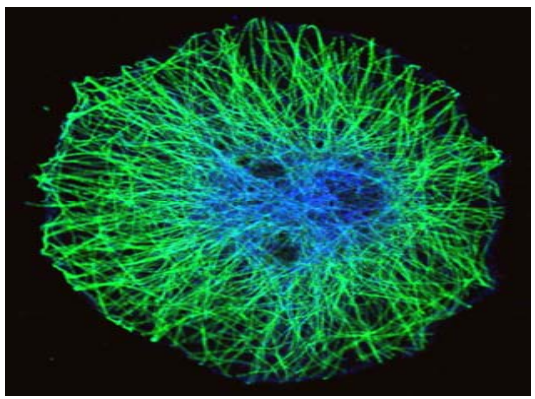
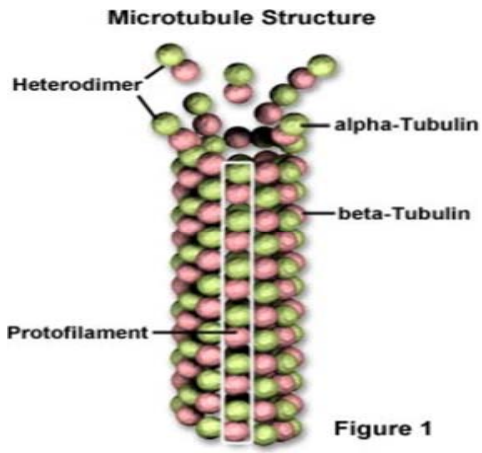
- **Lung cancer is the leading form of cancer worldwide in terms of incidence and mortality. NSCLC accounts for >80% of all lung cancers**
- **>50% patients have developed metastasis by the time of diagnosis**
- **Prognosis for patients with advanced NSCLC remains dismal**
- **First line therapy for NSCLC includes a combination of a tubulin-binding agent (TBA) (taxanes, vinca alkaloids, epothilones) and a DNA-damaging agent (platinums - cisplatin, carboplatin; doxorubicin; etoposide).**
- **Upregulation of the human βIII-tubulin is associated with clinical resistance to these drugs in NSCLC**
- **Knock-down of βIII-tubulin using RNAi significantly increases the killing of NSCLC cells by chemotherapy agents - both TBAs and DNA-damaging agents - proof of concept demonstrated.**







HCV Program

Licensed to Tacere Therapeutics Inc.

RNAi Therapeutics targeting Hepatitis C virus genome

- Multi-targeted to prevent viral escape
- Single drug “Cocktail”
- Benitec has an equity stake in Tacere
- USD$145M deal Tacere Therapeutics Inc and Pfizer Inc

“RNA interference (RNAi) has revolutionized biology — it has changed the way in which we view gene regulation and is a heaven-sent tool for studies of gene function”

Magdalena Skipper (2003), Nature Reviews Genetics 4, 671

Commercialisation strategy

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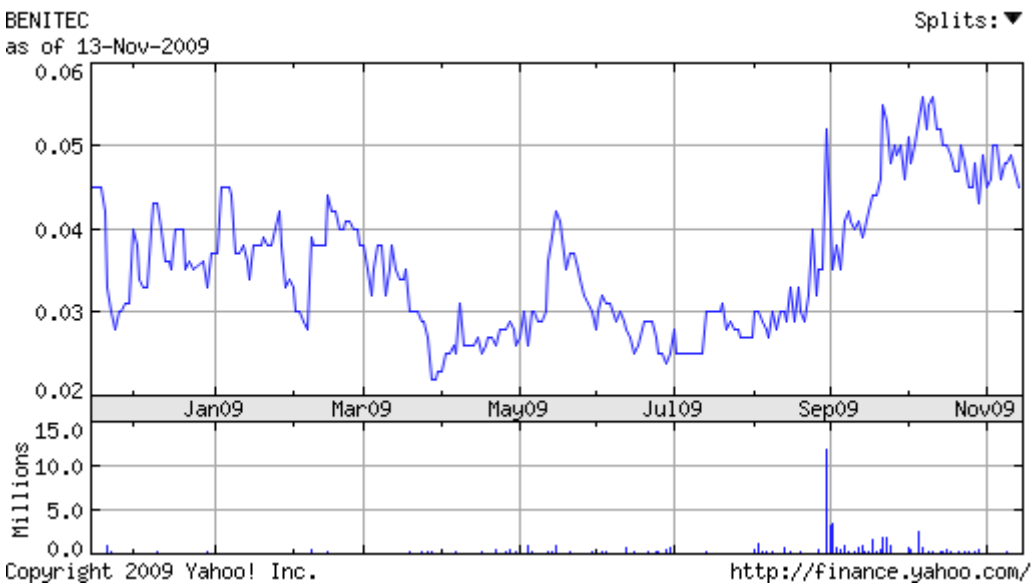
Licensing deals and collaborations with industry-leading partners with potential for additional ddRNAi and shRNA collaborations

Therapeutic use of ddRNAi	Research reagent	Research freedom to operate	Strategic cross-licensing
Tacere therapeutics	SIGMA-ALDRICH	MERCK	Carnegie Institute
Alnylam PHARMACEUTICALS	Promega	Pfizer	Alnylam PHARMACEUTICALS
COMBIMATRIX Discover the possibilities	ARTEMIS Pharmaceuticals GmbH		COMBIMATRIX Discover the possibilities
Revivicor	Ambion THE RNA COMPANY		
	genOway		
	IDT INTEGRATED DNA TECHNOLOGIES		
	GenScript Corporation VWR Strategic Partner		
	ORIGENE Your Gene Company		
	MILLIPORE CHEMICON THE EXPERTISE OF CHEMICON® IS NOW A PART OF MILLIPORE		

Financials

Capital Structure

Share price	AUD$0.045
Market Cap:	AUD $16.23 million
Issued Equity:	
- Ordinary Share	360,873,230
- Options	146,372,913
Cash position:	AUD $1.7 million
Burn rate	AUD$ 2.4 million
Avg. Daily Volume:	496,778 shares
Founded 1997	
Public 2001 (ASX:BLT)	



$'000	Jun-09 Actual	Jun-08 Actual
CASH ACCOUNTS	1,866	1,844
RECEIVABLES & OTHER	23	48
FIXED ASSETS	9	14
TOTAL ASSETS	1,998	2,006
Less PAYABLES	(792)	(593)
Less PROVISIONS	(57)	(55)
NET ASSETS	1,149	1,358
ISSUED CAPITAL & RESERVES	77,402	75,140
ACCUMULATED LOSSES	(76,253)	(73,782)
TOTAL EQUITY	1,149	1,358

Board of Directors and SAB

Mr Peter Francis – Chairman

- Renewable Oil Corporation Pty Ltd.

Sue MacLeman – Managing Director, CEO

- Bristol Myers Squibb
- Amgen
- Schering-Plough
- Agenix Limited
- EQiTX Limited
- AusBiotech Limited
- Pharmaceutical Industry Council

Mr Mel Bridges – Director

- ImpediMed Limited
- Alchemia Limited
- Incitive Limited
- Tissue Therapies Limited
- Campbell Brothers Limited
- Genera Biosystems Limited

Scientific Advisory Board (SAB)

- **Dr Ken Reed – Founder and SAB Chairman**
- **Dr John Rossi** – City of Hope Duarte California USA
- **Dr Bryan Williams** – Monash Medical Research Centre – Victoria, Australia
- **Dr Cy Stein** – Albert Einstein College of Medicine NYC USA
- **Dr David Crump** – PD&C Consultant Australia

Summary

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International, royalty-generating IP estate covering seminal patents in DNA-directed RNA interference (ddRNAi)

- ddRNAi: DNA 'mini-gene' transcribed by the cell into double-stranded RNA (dsRNA), which is then cut into guide RNAs
- Mimics natural production of dsRNA
- Introduced into cells with biological vectors

Focused on commercially attractive, life-threatening diseases in major cancer and infectious disease indications

Lead product in human trials targeting HIV/AIDS - promising results

Third party validation through licensing deals and collaborations with industry-leading partners for research, commercial and therapeutic uses of ddRNAi.

- Sigma Aldrich
- Pfizer Inc
- Merck Inc
- Promega Inc
- Tacere/Pfizer/Oncolys
- Potential for additional ddRNAi and shRNA collaborations

- **Fire and Mello Nobel Prize provides scientific boost to RNAi**
- **RNAi field validated by recent acquisitions and collaborations with big Pharma**

Thank you

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