



Announcement to ASX (119)
1 July 2003

Video Conference with Clearview Projects (USA) and Associated Information

The following information is to be released today at 10:45am at a video conference with Clearview Projects (USA).

All Shareholders and others have been invited to attend.

This information is to be mailed to shareholders today.

A handwritten signature in cursive script that reads "Richard de Lautour".

Richard de Lautour
Company Secretary

YOUR QUESTIONS ANSWERED

Why invest in Virax now?

There are three reasons:

1. The Company has built a combination of unique and valuable assets—potential products, processes, intellectual property and a capability to produce trial drugs.
2. In partnership with others, these assets can lift Virax shareholder value & share price
3. Clearview Project Inc, an international partnering dealmaker, is working with Virax to secure partner deals in the next 7—10 months.

What are the prospects?

The Company will be re-valued by the completion of partnering deals.

The potential market for immune drugs is huge and expected to grow rapidly.
US\$15 billion worldwide market opportunity for therapeutic immune drugs by 2010. (Source: Theta Reports)

Virax has potential because immune therapy drugs are seen as the way ahead.

Why invest?

Early stage biotech is always a speculative investment. With such investments there is a known and finite down side (20 per share) and a multiple on the upside.

The investment time horizon of 7-10 months is not long.

The search for a partner is being done on a methodical basis and it is with the assistance of well regarded transaction specialists.

My previous investments in Virax were at higher prices, so why put in more money?

Virax needs to continue development programs as it pursues the deliberate partnering process.

Virax can only increase shareholder value by continuing its development programs and executing partnership deals.

***It is Shareholders' Choice
Invest and have the prospect of the Upside.***

VIRAX

ABN 56 006 569 106

VIRAX HOLDINGS LIMITED: OFFER CLOSES 10 JULY 2003

ONE 20 cent NEW SHARE for each TWO EXISTING SHARES

PLUS

ONE OPTION for EACH NEW TWO SHARES

Exercisable: 2½ years at 25 cents per share

Pay 100% NOW

Or

50% Now and 50% by 24 October 2003

OVER SUBSCRIPTION

If you wish you can apply for more than you share entitlement

Virax can only increase shareholder value by continuing its development programs and executing partnership deals.

Your Company needs your continued support.

Read the Prospectus and Discuss it with your Adviser.

Anyone wishing to acquire securities must complete an entitlement or application form that accompanies the Prospectus dated 22 May 2003.

Additional copies of the prospectus can be obtained from Virax Holdings Ltd, Phone: (03) 9854 6230 or by visiting www.virax.com.au

OFFER IN ANTI-SUIT

PARTNERING— A STRATEGIC DIRECTION FOR ADDING VALUE

Highlights from Clearview Projects/ Virax shareholder video conference held July 1, 2003.

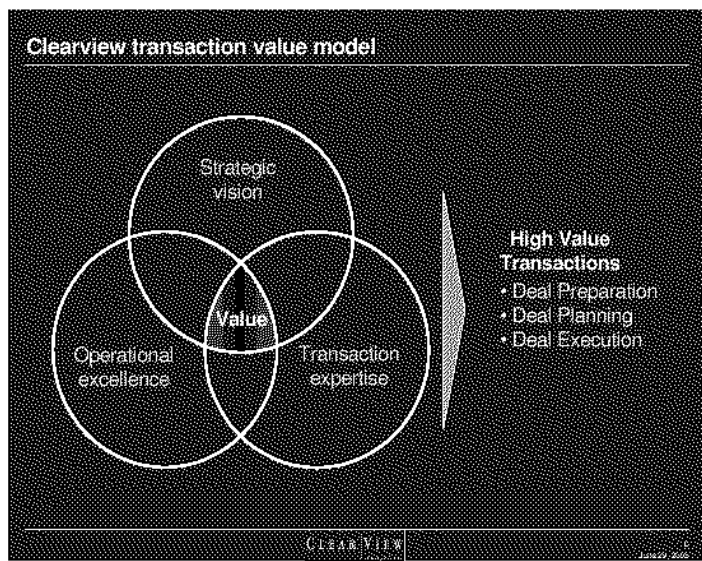
Why partner?

- Reduce risk from failure in lead program by capitalizing future revenue stream
- Provide cash to in-license additional clinical stage compounds
- Validate commercial potential of compound
- Leverage partner's global infrastructure
- Access to world wide clinical, commercial and distribution capabilities
- Ability to learn from best in class practices of pharma partner while establishing internal capabilities

CLEARVIEW JULY 2003

“Partnering is an internationally recognised biotechnology strategy with many advantages over traditional internal development programs.”

“Clearview can maximise the chance of successfully concluding strategic transactions for its clients.”



Deal Steps for Clearview Clients

Partnering process

Deal Preparation	Deal Planning	Deal Execution
<ul style="list-style-type: none"> • Conduct technical / medical / commercial assessment based on: <ul style="list-style-type: none"> - Competitive analysis - Clinical and regulatory analysis - Market research - Product profiles • Prepare Life Cycle Plan • Define market opportunity and develop sales forecasts • Provide sophisticated financial valuation model • Prepare comprehensive financial assessment of strategic options 	<ul style="list-style-type: none"> • Screen potential partners utilizing partner selection matrix which considers: <ul style="list-style-type: none"> - Commercial expertise and fit - R&D expertise and alignment - Partner deal history • Analyze comparable deals • Provide deal threshold analysis • Prepare confidential and non-confidential packages • Prepare partner presentation • Provide advice and counsel on deal strategy • Develop, evaluate, and provide recommendations on deal structures and term sheets 	<ul style="list-style-type: none"> • Provide access to high-level decision makers through extensive pharmaceutical network • Facilitate meetings <ul style="list-style-type: none"> - Scientific / Commercial - Due diligence / • Develop negotiation strategy • Identify and resolve key issues early • Accelerate negotiation process via utilization of operational expertise • Facilitate contracting process • <u>Close deals!</u>

CLEARVIEW JULY 2003

“An integrated well planned partnering process dramatically increases the probability of success.”

PARTNERING— A STRATEGIC DIRECTION FOR ADDING VALUE

Clearview team brings strong transaction and operating experience

<p>Samuel L. Barker Ph.D. Co-Founder & CEO</p> <p>Formerly</p> <ul style="list-style-type: none"> - President US Pharmaceuticals, Bristol-Myers Squibb - Senior Vice President Franchise Management, Bristol-Myers Squibb 	<p>D. Kevin Kwok, Pharm.D. Vice President, Corporate Transactions</p> <ul style="list-style-type: none"> - COO and VP Commercial Development, X-Mine - Director, Business Development, Strategic Product Planning, and Corporate Affairs, SUGEN Pharmacia - Director, Franchise Management, New Business Ventures, Bristol-Myers Squibb
<p>Linda Hogan Vice President, Business Development</p> <ul style="list-style-type: none"> - Vice President, US Group Head, Global Business Development, Aventis - Senior Director, Licensing and Alliances, Hoechst Marion Roussel - Director, Licensing, Marion Merrell Dow - Manager, Licensing, Marion Laboratories 	<p>Carolyn Fearster Vice President, Business Strategy & Analysis</p> <ul style="list-style-type: none"> - Vice President, New Product Planning and Commercial Development, Corixa/Coulter - Senior Director, New Product Marketing, ALZA Corporation - Product Director, Syntex Corporation

CLEARVIEW June 20, 2001

“The Clearview team has significant industry experience with over 50 high value, high profile transactions achieved.”

“The Clearview team are industry leaders dedicated to optimizing value for pharmaceutical and biotechnology clients.”

Engaging Clearview is a value added investment

- Seasoned team of professionals
 - Known and respected within the industry
 - Exceptional contacts at all levels of partner companies
 - Clearview screen of potential clients viewed as a “stamp of approval”
- Clearview approach adds strategic technical/medical and commercial value to maximize the transaction
 - The package that big pharma and biotech are looking for
 - The Clearview process provides strategic analysis and judgment that provides benefits beyond partnering

- ✓ PROVEN track record
- ✓ Open doors at many levels
- ✓ Avoids “black hole” delays
- ✓ Builds credibility and hastens review
- ✓ Active deal flow with global clients

CLEARVIEW June 29, 2005

Partnering Opportunities with Virax

- Collaborations to discover, develop and manufacture immunotherapy leads for specific indications of interest
- Broader platform collaborations around Virax’s Co-X-Gene™ Technology and Fowlpox Vector Technology
- Collaborations around lead programs in HIV / AIDS, Hepatitis B and / or prostate cancer
- M&A opportunities for partners seeking strategic position in the immunotherapy field

CLEARVIEW July 2002

“Multi-dimensional partnering & deal-making options exist for Virax.”

Visit www.virax.com.au to view a video webcast of the full teleconference held on July 1, 2000.

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Staff Profile: Marion Rees



Marion Rees

Marion Rees joined Virax as Intellectual Property (IP) Manager in 2001 bringing a wealth of specialist knowledge in biotechnology IP management. Marion is responsible for Virax patent and trademark portfolios, due diligence for in-licensing opportunities and ensuring clear path to market for Virax products and technologies.

A qualified patent attorney, Marion worked for five years as a senior patent adviser at GlaxoWellcome Plc Head Office in London prior to migrating to Australia to join Virax. In this earlier role she dealt with all aspects of a large biotechnology IP portfolio and provided input on proposed and existing licences and agreements and due diligence for in-licensing opportunities.

Marion also has experience in formulating and implementing strategies for evaluating and exploiting IP within a portfolio, filing and prosecuting patent applications and handling opposition and interference proceedings.

Her technical areas of expertise include DNA vaccines, disease-gene locus associations, diagnostics, gene therapy, bacterial genomics, targets and screens, anti-cancer compounds, anti-inflammatories and single nucleotide polymorphisms (SNPs).

Agreement Signed With Leading U.S. Biotech

Virax recently entered into a supply agreement with MedImmune, Inc., a leading biotechnology company headquartered in Gaithersburg, Maryland USA. Under the supply agreement, Virax will provide technology to MedImmune for use in the development of potential future products. Virax will receive up to AUD\$400,000 from MedImmune upon the successful delivery of the technology specified in the agreement. No additional details from the agreement were disclosed.

Dr. David Beames, chief executive officer of Virax, said, "Overseas recognition of our expertise is important as we continue to progress Virax technologies and products. It is very gratifying that Virax is gaining this recognition for its accomplishments. Virax hopefully can build on this initial relationship."

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Corporate Milestone Watch 2002

- Q3 2003: Preclinical studies on hepatitis B treatment due to commence
- Q3 2003: Preclinical studies on prostate cancer therapy due to commence
- October 2003: Last patient to conclude testing in VIR201 Extension Study
- End 2003: VIR201 Extension Study results to be announced

New Phase for Virax - Partnering Strategy Key

In March 2003 Virax appointed Clearview Projects Inc. as an advisor to evaluate the Company's strategic options going forward and to assist in securing an appropriate partnership for the Company's development program.

Clearview Projects are transaction advisers providing biopharmaceutical companies with transaction oriented deal planning, preparation and execution.

"Retaining a strategic partnering specialist is important for Virax because it enables the Company to take the next steps forward for adding value to our development efforts", said Dr David Beames, Virax Chief Executive Officer.

Through partnership Virax is seeking a major injection of funds to enable the development projects to continue at an appropriate pace.

"Clearview Projects has an excellent track record for successfully bringing together organisations working in the biopharmaceutical area," explained

Dr Beames. "We are delighted to have secured its much sought after services to lead our efforts to identify and negotiate deals with appropriate partners for the development of the Co-X-Gene™ technology and the projects in our portfolio."

"We recognize that most of the opportunities for partnering lie outside Australia and therefore the international profile of Clearview Projects will be invaluable."

"Biotech business development of this kind is a specialised field requiring expertise in planning, preparation and execution. The appointment of Clearview Projects will assist in opening the right doors at many levels.

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Moving Forward

Virax has already embarked on the next vital stage in its development program. We are committed to enhancing the value of our technology and seek to achieve this through partnership and collaboration. Development capital in Australia is undeniably limited. To achieve its goals the Company is now looking overseas for partners who will not only provide cash, but also technological expertise, insight into international markets and in the longer term assist with commercialisation.

The appointment of Clearview Projects is an important achievement for Virax. Their endorsement of our program alone will be recognised internationally and we find it rewarding working with them to secure highly beneficial collaborations to advance our business.

The announcement of the VIR201 clinical trial results earlier this year clearly had a significant impact on the Virax share price. Management appreciates shareholders' frustration over the fall in the stock. However I want to reassure loyal supporters that VIR201 has not failed. Far from it; the trial successfully demonstrated VIR 201 safety which was the major objective.

This trial was not designed to assess how well VIR201 could control the HIV virus, which is the ultimate goal for any HIV treatment. In addition to the judgment on the safety of the drug, we were able to review the extent to which the immune system was reacting to the drug. Under the specific circumstances of the safety study, with anti-retrovirals still present, VIR201 simply did not provoke a measurable response in the patients' immune systems.

To have identified an immune response to VIR201 at this time is not essential for the ongoing development of the product or its ultimate success. The structure of future clinical trials involving VIR201 may be refined due to the information gathered here, however the Company's overall strategy remains unchanged.

Dr David Beames
CEO

editorial

About Partnering

The formation of partnerships between pharmaceutical and biotechnology companies has been a critical factor in the international development of the biotechnology industry. These relationships may take many forms, including co-development agreements, mergers, acquisitions and licensing of technology or products. For early stage development companies, partnering can provide access to both development expertise and capital. It also provides an external validation of a company's technology or products.

Multinational pharmaceutical companies are increasingly looking to smaller biotechnology companies for innovative technologies and products that will broaden their portfolios and spread their risks through diversity. Through alliances with smaller companies, these larger partners can gain access to novel products in specific disease areas and also fill timing gaps in product development programs.

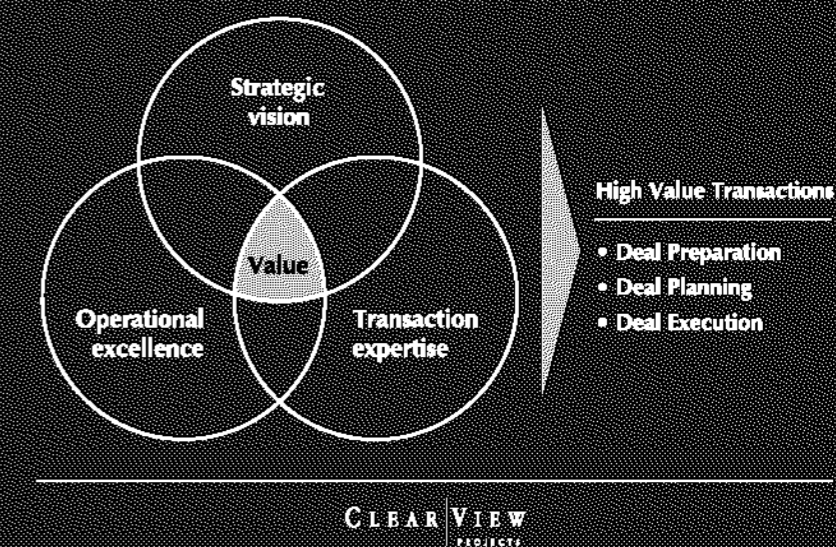
In today's very challenging financial markets, the bio-partnership or bio-alliance has become a very effective alternative to access critical funding for early stage development companies.

Partnering can generate revenue, (by having the collaboration partner pay various amounts for the privilege of doing the deal) and reduce development costs (by splitting responsibility for these costs with the collaboration partner.)

The decision to seek partnerships is an important strategic option for biotechnology companies to undertake. Putting together the appropriate deal takes time and considerable diligence to close and to manage. It takes specialist skills and access to potential partners to identify and work through the scientific, business and relationship issues. It takes skill to quantify and extract the value that is possible through a partnership. Ultimately, successful partnerships have been shown to add shareholder value.

Virax has undertaken a rigorous process to identify, shortlist and secure Clearview as our preferred partnering transaction specialist.

Clearview transaction value model



"Understanding our clients and their portfolio is the first stage in this path towards partnership," explained Dr Kevin Kwok, Vice President of Corporate Transactions at Clearview Projects who recently spent time in Australia working with the Virax team. "We conducted detailed medical/ commercial assessments, analysing competition, the clinical and regulatory environment and product profiles. Market opportunities are defined and Life Cycle Plans prepared."

"Equally important is a thorough knowledge of potential partners before approaches are made. This planning phase is fundamental for successful alliances," said Dr Kwok.

Clearview Projects utilises a partner selection matrix which considers commercial expertise and fit, R&D expertise and alignment and partner deal history, amongst other factors.

"Business development must be particularly strategic in down markets. Merger and acquisition activity in the pharmaceutical industry has reduced the number of potential partners and the deal making environment is becoming increasingly conservative. As companies seek to lower their risk profile, there is scepticism of products with novel mechanisms of action."

"Furthermore competition is great. The big pharma/biotechs are evaluating ever increasing numbers of product partnering opportunities."

"We are delighted to provide our expertise in facing these challenges to secure the best opportunity for Virax. "

1. "Collaborations—A Partial Answer in Today's Funding Environment" by Albert L Sokol, Edwards & Angell, LLP, March 18, 2003.

About Clearview Projects

CLEARVIEW
PROJECTS

Clearview Projects Inc., with offices in New Jersey and the San Francisco Bay Area USA, is dedicated to representing biopharmaceutical and biotechnology clients on strategic transactions to maximize the value of the technologies and products in their portfolios. Clearview has created a unique, strategic approach, based on the collective experience of its founders and senior management, which results in high value transactions for clients in North America, Europe and Japan.

Clearview helps its clients with all types of strategic transactions, from co-promotion/co-development deals to joint ventures, straight out-licensing arrangements, and mergers and acquisitions.

Clearview Projects, founded by Kenneth Weg, former Vice-Chairman of Bristol Myers Squibb and led by President and Chief Executive Officer Arlene Morris, has extensive pharmaceutical and biotech experience and the principals have been instrumental in collectively executing more than 70 high value, high profile global transactions.

They have the right blend of expertise and capabilities in deal-making, commercial and clinical operations, finance and management consulting to help build maximum commercial value from a biopharmaceutical company's technology and product portfolio.

This seasoned team of professionals are known and respected throughout the industry with exceptional contacts at all levels of partner companies. Clearview has the skills to create high level visibility for Virax in the markets in the USA & Europe.

Vir201 Trial Results Confirm Safety-Development Programs Continue

In February Virax announced the results of the initial stage of its Phase I/IIa immune therapy trial for VIR201. The drug has been shown to be safe. The clinical studies were conducted by investigators from the Australian National Centre for HIV Epidemiology and Clinical Research (NCHECR) at sites in Melbourne and Sydney.

The demonstration of safety is the first critical step in the regulatory process that new pharmaceutical products must undergo prior to further clinical testing in humans.

Dr. David Beames, Virax Chief Executive Officer, said, "We are very pleased that the detailed statistical analysis of this early stage clinical study has confirmed the safety of VIR201."

The Phase I/IIa clinical trial testing VIR201 was a multi-centre, double blind, placebo-controlled, randomised, parallel group trial involving patients with early-stage HIV infection. A total of 34 patients completed the trial in which they received a series of injections and blood tests regularly over six months. Patients continued to take standard anti-retroviral therapies throughout this initial part of the trial.

The second part of the Phase I/IIa trial, the extension study or a structured treatment interruption study, began last year and is ongoing. Patients in the initial Phase I/IIa trial have been given the opportunity to participate in the Extension Study of VIR201. Patients have received a booster dose of the medication they received in the first phase of the trial and have ceased taking their anti-retroviral drugs. Thus an indication as to how the body

responds to VIR201 without other medicines, should be obtained.

Professor David Cooper, AO, Director of the NCHECR, is leading the team that is working with Virax in the clinical testing of VIR201, including the initial Phase I/IIa trial and Extension Study.

"With the growing problems of resistance by the HIV virus to antiretroviral drugs, immune based therapies are emerging as one of the most promising means to manage the epidemic", said Dr. Cooper.

He continued, "We will continue to work with Virax to analyse the data from the initial stage HIV immune therapy testing. This data, coupled with the additional data from the Extension Study, should provide valuable information for the potential role of immune therapy in managing HIV," said Dr. Cooper.

IMMUNOGENICITY

As a secondary goal, the VIR201 study also looked at potential T cell immunogenicity or the ability of the drug to elicit a specific immune response in patients. The data from this limited study indicated that VIR201, as administered and analysed in this study, did not elicit immune responses in the trial participants receiving the

drug, which has provided vital information essential for planning future trials.

"The assessment of the immunogenicity results of this initial study and those of the ongoing VIR201 Extension Study are essential building blocks for Virax to design the future clinical trials both for VIR201 and other potential products. These results will be used to plan future trials of VIR201." said Dr. Beames

HIV IMMUNE THERAPY PROGRAM

Virax's HIV program is focused on the development of a therapy for early stage HIV infection using an immune-based therapy approach. The Company's lead candidate in development is VIR201, a recombinant fowl pox virus that delivers both viral antigens and a cytokine. VIR201 utilises Australian co-expression or Co-X-Gene™ technology to harness the body's own immune system to fight infection.

OTHER IMMUNE THERAPY PROGRAMS

The Company has additional immune therapy product development programs underway for the treatment of prostate cancer and hepatitis B. Preclinical development studies are expected to begin in Q3 2003.

Vir201 Trial Results Questions & Answers

PHASE I/IIA - INITIAL STUDY ANALYSIS

Q How significant is this result?

A This is an important result in the ongoing development of VIR201 as an HIV therapy. A drug's safety must be confirmed before additional clinical trials are undertaken. The current safety result enables us to continue human clinical development of VIR201.

Early stage clinical trials are meant to provide valuable information for continuing clinical trial development.

We now are taking the opportunity to review protocols before additional testing is undertaken on a larger scale. Thus the information and data collected in the current trial, coupled with that from our ongoing Extension Study, is extremely valuable for planning future development of VIR201 and Co-X-Gene™ technology.

Q How significant is the immunogenicity result?

A The ability to collect any information regarding immunogenicity during a Phase I safety trial is a bonus. The immunogenicity data we have received to date and the ongoing review of possible variables that could have influenced the result will be of much assistance in developing future protocols for additional trials.

Q Is VIR201 working as expected?

A No conclusion can be drawn at this stage regarding the potential role of VIR201 in the treatment of HIV infection. Immunogenicity can often parallel efficacy, particularly in regards HIV, but is not always a reliable predictor of clinical efficacy. Immune based therapies are a new field of medicine and there is no universally accepted set of evaluation indicators or mechanisms.

Q What are your next steps with respect to this initial stage of the trial?

A In consultation with Professor Cooper and other experts Virax is reviewing the different factors that may have influenced the findings of the trial. These include trial design (especially patient inclusion criteria), analysis techniques, sample preparation, antigen and cytokine constructs and dosing. It is very important to undertake a complete review of these factors before structuring future trials.

Plans for future clinical development are yet to be determined. This will not be finalized until all analysis of protocols for this trial is complete and the results of the Extension Study are available. VIR201 remains a potential HIV therapy and our plans are to progress its development.

PHASE I/IIA - ONGOING TRIAL EXTENSION STUDY

Q Is the Extension Study continuing as originally planned?

A The positive safety outcome of VIR201 does not present any obstacles to the continuation of the Extension Study.

Q What are you looking for with the Extension Study?

A We will be examining the degree to which viral load is controlled in patients receiving VIR201. This should provide a preliminary indication of the drug's potential efficacy.

Q When will the Extension Study be completed?

A We expect the study to be completed and the result to be available late this year.

IMPACT ON R&D PIPELINE

Q What does this mean for Co-X-Gene™ technology?

A The safety profile for Co-X-Gene™ technology in conjunction with fowl pox virus vectors (FPV) is a positive one. We can now proceed with greater confidence regarding the application of this platform technology to other therapies. We hope to gain a greater

insight regarding its efficacy in HIV from the current Extension Study. However a detailed assessment of efficacy can only be obtained from a full scale Phase II study. This is the normal path required by the regulatory authorities (eg TGA or FDA).

Q How does this impact on other development programs in Virax's portfolio?

A At this stage both our hepatitis B and prostate cancer programs are progressing as originally expected. We plan to enter preclinical studies with both products in the next few months. The insights obtained from the current trial will be included in the plans for these candidate therapies.

ANNOUNCEMENT STRATEGY

Q Why announce an ambiguous clinical trial result in a negative market?

A Under the Australian Stock Exchange laws of continuous disclosure Virax is obliged to immediately release information that may have a material impact on the share price of the Company. However the Company is also committed to being open and transparent in its activities. We endeavour to keep investors fully informed and a reading of the full announcement, we believe, explains the real implications of these scientific results. It is important to recognise that our main endpoint of safety was achieved.

NEXT STEPS FOR COMPANY

Q How does this trial result impact the company financially?

A Virax will continue to seek additional investment in its technology. Further funds are required for the next stage of development. These will be sought from a variety of sources in Australia and overseas. Virax will also evaluate the opportunity to involve potential development partners for VIR201. Working with a partner will facilitate the global clinical development program for VIR201.

Virax Expands Development Capability

In December last year Virax took greater control of the process for its new product development by establishing a new Vector Construction Unit (VCU) located within the School of Biomedical Sciences, Monash University.

"The VCU is a valuable addition to the infrastructure of the company and complements our existing GMP manufacturing facility at Boronia," said Virax Chief Executive Officer, Dr David Beames. "This is an important capability for the future growth of Virax."

"Vectors are fundamental building blocks of our immune based therapies and the ability to produce these ourselves will enable the company to continue the expansion of our product pipeline at a reasonable pace," he said. Virax previously out-sourced its vector construction.

Dr Paul Howley, who began as Technology Manager at Virax in August last year, heads

the Unit and supervises the construction of the vectors. Dr Howley is an internationally recognised virologist. Prior to joining Virax he held the position of Research Director at Bavarian Nordic GmbH, a Danish/ German bio-pharmaceutical company. His expertise is in design, construction and manipulation of recombinant pox viruses (vectors) for use in immune based therapies.

A vector is the vehicle used to deliver the required treatment to specific diseased cells. Virax is currently using a fowl pox virus (FPV) as its vector with its Co-X-Gene™ technology.

The Virax VCU is located in the Department of Physiology at Monash

University, in the new biomedical cluster being created in the South East suburbs of Melbourne. The laboratory has been renovated with the assistance of the Victorian Government Science and Technology Innovation Initiative.

"We are delighted to have access to the recently refurbished space at Monash. It is an ideal surrounding for the Unit," said Dr Beames.

"Virax is delighted to be part of this very active community of development stage companies. This will provide excellent opportunities for the Virax team to interact with other leading scientists at the University."

For The Scientifically Inclined: What Is Vector Construction?

Drug production for human trials involves two stages:

Vector construction - the creation of a biologic building block into which therapy specific elements can be placed

Manufacture - the replication, purification, quality testing and finally packaging of the drug



Prostate Cancer Update

Virax's anti-cancer program is focused on the development of an adjunct therapy for advanced stage prostate cancer using an immunotherapeutic approach.

Through a development collaboration agreement with Dr. Michael Brown of Royal Adelaide Hospital's Cancer Centre, Virax is working towards taking a new drug into clinical trials.

Dr. Brown, a clinical immunologist, is currently using Virax's Co-X-Gene™ technology as part of a study funded by a prestigious United States Department of Defence Prostate Cancer Research Program grant.

In 2002 Virax filed a patent application relating to a future prostate cancer treatment.

Preclinical testing of the candidate therapy is due to commence in the second half of 2003.

Virax hopes to be able to commence a Phase I clinical trial in the first half of 2004.

Hepatitis B Development Program

The WHO estimates that over 2 billion people have been infected with hepatitis B virus worldwide, and more than 350 million are chronic carriers of the virus. Existing hepatitis medicines have shown an alarming tendency to become ineffective as the virus quickly develops resistance to the treatments. Therefore

the need for a more effective product to treat hepatitis B has never been greater.

Virax's collaborators in the United States, the New York Blood Center (NYBC), have identified genes which will be incorporated into the Co-X-Gene™ platform to specifically target hepatitis B and form the basis for a much needed

treatment for this widespread disease.

Dr Fred Prince and his team at the NYBC are currently on track to commence preclinical testing of the proposed therapy in Q3 2003.

It is hoped that the clinical trial will commence in 2004.

VIRAL VECTORS

Vectors are carriers. In immunology, they are transport systems, which take chosen genetic particles into the cells of the human body. Viruses have the innate ability to penetrate cells in the body, which makes them ideal vectors.

Virax's Co-X-Gene™ technology can use several different live viruses or vectors, which are modified by the inserting genetic information relevant to the disease target.

Viruses selected as vectors must be harmless to humans. Virax's chosen vector is a weakened fowl pox virus, or FPV, which causes fowl pox disease in chickens but does not infect humans.

VECTOR CONSTRUCTION

Vector construction starts with an unmodified virus. The scientist inserts disease specific genetic material into the virus DNA or genome. These additional genes relate to the ultimate purpose of the drug under development.

In the case of Virax's HIV treatment, an FPV vector was modified by inserting into its DNA two genes from the HIV virus. A specifically chosen cytokine was also inserted. Cytokines are genes that affect the interaction between cells in the immune system.

It is essential to test this modified virus to ensure that firstly it contains the genetic material, secondly that material is active, and thirdly that the material is inserted in the correct position in the virus genome.

The modified virus is then used to infect cells cultured in plastic dishes or flasks. This produces "seed stock" which is the starting point for larger scale manufacture of the actual drug to be used in pre-clinical and human clinical trials.

Virax's manufacturing takes place in the GMP facility at Boronia Victoria.