ABN 54 117 526 137

Vectus Biosystems Limited
Chairman's Address to the 22 November 2023 Annual General Meeting

The 2023 year was very productive and Vectus achieved a significant number of milestones, commencing with the September 2022 finalisation of the Phase Ia human safety clinical trial in collaboration with the Nucleus Network in Melbourne and Syneos Health. The Company's lead cardiovascular candidate, VB0004, is supported by a broad portfolio of issued patents. Vectus' strategy is to develop and perform early validation of its drug candidates to the point where they become commercially attractive to potential pharmaceutical partners. Vectus continues with progress in its Phase Ib human trials of VB0004 that addresses a significant unmet need for anti-fibrotic agents for patients with cardiovascular and/or kidney disease.

In September 2022 Vectus announced to the market that it had completed all protocol requirements of both the Single Ascending Dose (S.A.D.) and the Multiple Ascending Dose (M.A.D.) segments of its first-in-human trial. The Trial Safety Committee reviewed data from all five planned S.A.D. cohorts as well as all three planned M.A.D. cohorts. The Phase Ia trial established an impressive safety profile for VB0004, with a maximum tolerated single dose of 300mg and no significant adverse events seen in the M.A.D. studies at 10mg, 30mg or 100mg administered daily over a 14-day period. Also established are consistent pharmacokinetics of six-to-eight hours to achieve maximal plasma concentration and a half life in excess of 10 hours. The completion of the Phase Ia trial is a significant milestone in proving the safety of the Company's antifibrotic / antihypertensive drug, and is particularly pleasing as Vectus moves towards the next phase of testing of a compound that can have a significant and widespread, global positive impact on disease, the pathology of which has many aetiologies. While there were challenges in recruiting patients for the Phase Ia trial due to COVID-19, the results achieved made the wait worthwhile.

Vectus continues to advance work on its library of over 1,000 compounds, derived from the platform underpinning VB0004. Vectus has selected additional emerging leads to address liver fibrosis (VB4-A32) and lung fibrosis (VB4-A79) more specifically. The Company's drug candidates have the potential to attract first-in-class status and therefore the potential for higher levels of re-imbursement on the basis of being innovator compounds that address unmet needs. Vectus' drugs are targeting some of the largest pharmaceutical franchises in the world. Fibrotic diseases can account for up to 40% of the world's current mortality rate. The Company's initial human clinical trial targeted the validation of safety and tolerance. Further studies are examining the efficacy of VB0004 to treat various conditions that cause damage in the cardiovascular system. Vectus continues its research into the possible opportunity to target the fibrotic damage resulting, in some cases, from COVID-19. VB0004 has the potential for its orally-active small molecules to play a role in this unmet need.

I see in my work as a Radiologist and Clinical Physician, the real need for this new class of drugs, providing significant social, patient and health economic outcomes. Fibrosis, or scar tissue, is the end point of a whole host of diseases, including high blood pressure, injury, post infections (such as COVID-19), radiotherapy and silicosis. To have potential drugs, like those in the Company's stable, that can not only stop the growth of scar tissue, but also reverse the fibrosis, is a major development in medicine. To take the drug orally, in tablet form, also decreases the cost of production and, more importantly, increases the ease of use by patients. The use of Vectus' compounds to reduce blood pressure is also very significant.

Finance

The funds expended by the Company during the last year were largely in connection with the finalisation of the Phase Ia and the Phase Ib human clinical trials for VB0004. Cash-on-hand at 30 September 2023 was $1,769,000. In addition, Vectus received a $1,226,161 R&D refund on 20 November 2023 from the Australian Taxation office. The Company continues to evaluate a number of options to address its future capital requirements, and the funding of its future R&D, and product commercialisation programme. Vectus remains in active dialogue with potential investors, and a number of brokers and providers of other sources of funding, and is in strategic discussions with potential trade partners.

Commercialisation Process

Since the successful completion of the Phase Ia human trial, and during the Phase Ib human trial, the Company is increasing its dialogue with some of the world's leading pharmaceutical companies and regional mid-sized firms, and feedback has been positive. Vectus' strategy is to develop and perform early validation of its drug candidates to the point where they will become commercially attractive to potential pharmaceutical partners. The Company's objective is then to partner with one or more companies via a licencing programme, focusing initially on VB0004. The additional compounds also present an attractive commercial opportunity for Vectus and clinical success in any one of the Company's compounds is likely to generate increased interest by pharmaceutical companies. Today there is a rapidly evolving interest in the franchises and disease states that Vectus addresses. Particularly in Asia, liver fibrosis represents an important market because of the significance of hepatitis in this region. Whilst new drugs have become available to deal with this viral infection, they do not reverse existing damage and, in many cases, the fibrosis can be progressive. The Company's compound ideally complements these new drugs by potentially arresting progression and reversing damage in a clinically-significant way. This represents, both socially and financially, a very large unmet need, and could be a transformational therapy of great significance.

Accugen

Since the 2022 AGM significant advancements have been made to enhance the Accugen technology aimed at improving the speed and accuracy of measuring the amount of DNA and RNA in samples tested in laboratories. The technology, consisting of AccuCal™ and RealCount™ software, offers a time, cost and accuracy benefit compared with currently available systems. This novel and well-patented platform is 100% owned by the Company. Vectus' Accugen platform has been instrumental in the development of the Company's lead compounds and library. The technology comprises reagents and software that quantitate polymerase chain reactions (qPCR). Activities in the commercialisation programme continue in relation to the introduction of Accugen's consumables and software into the qPCR market. This work aims to tap the broad potential market for the Accugen product and may lead to a combination of direct sales, distribution partnerships and licensing opportunities, including applications related to large and growing market of food safety.

The Vectus Team

The Board's sincere gratitude goes to Dr Karen Duggan and the Vectus team, for their work during the past year in moving VB0004 through the important Phase Ia human trials and into the Phase Ib human trials. Thank you for the efforts and guidance from the Board members in working towards success and growth for the Company. Vectus' shareholders have been active in their support during this exciting phase of the Company's development. We look forward to progressing our activities and growth of the Company's unique library of assets with the objective of contributing in a meaningful way to society, patients, our stakeholders and the delivery of improved healthcare worldwide.

Vectus Biosystems Limited

Ron Shnier
Chairman

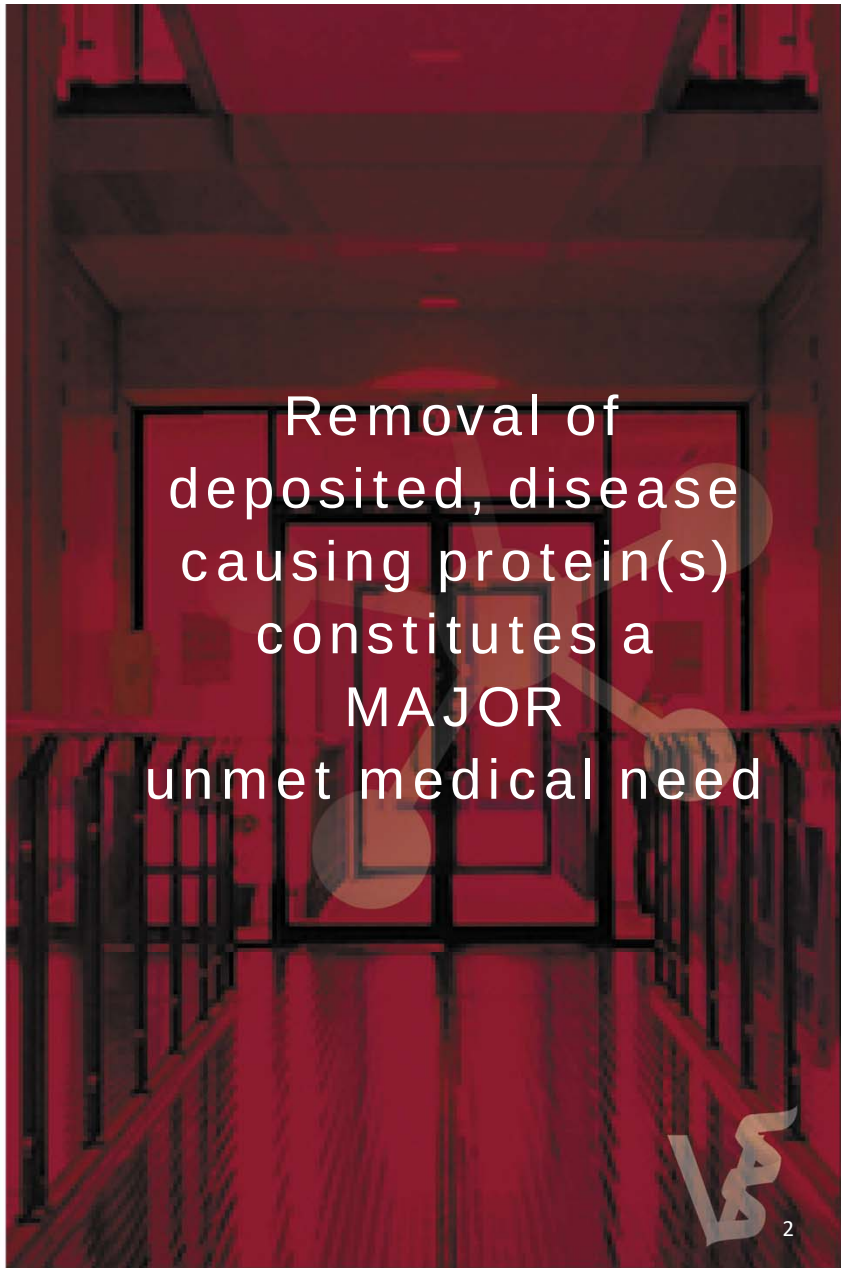
The AGM Presentations have been authorised for release by the Board.


VECTUS
BIOSYSTEMS
AGM 2023
Solutions for unmet medical needs

Protein Deposition Diseases

Three groups:

- *Fibrosis related diseases*
  - Accumulated proteins collagen and fibronectin
  - Common diseases, major unmet needs, fibrosis is the pathology underlying
    - Heart failure
    - Kidney failure
    - Liver cirrhosis and failure
    - Pulmonary fibrosis
  - Accounts for more than 40% of all deaths
- *Amyloidoses*
  - Accumulated proteins vary by organ, mostly rare diseases
    - Brain- amyloid beta (Aβ) => Alzheimers
    - Heart – transthyretin (TTR) => cardiac amyloidosis, ATTR-CM
    - Kidney – TTR => renal amyloidosis
    - Intestine – amyloid A (AA), β2 microglobulin, prealbumin
    - Pancreas – Islet amyloid polypeptide (IAPP)
  - Mostly rare diseases
- *Mixed Fibrosis and Amyloid Deposition*
  - Accumulated proteins AA, AL or TTR plus collagen, fibronectin
    - Heart
    - Kidney
    - Pancreas

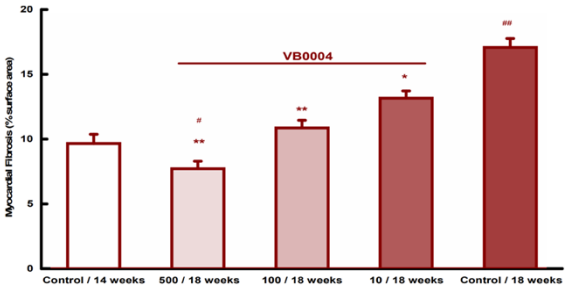


VB0004 & CARDIAC FIBROSIS

VB0004 has been shown to:

- Rescue cardiac tissue damaged by fibrosis
- Repair existing cardiac damage
- i.e. VB0004 is transformational

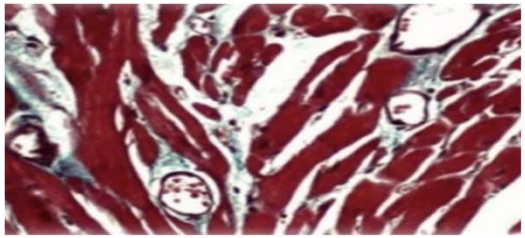
Treatment with VB0004 at 3 Doses



At the highest dose (500pmol/kg/min), VB0004 reversed pre-existing fibrosis, while a dose response effect on the level of fibrosis is apparent

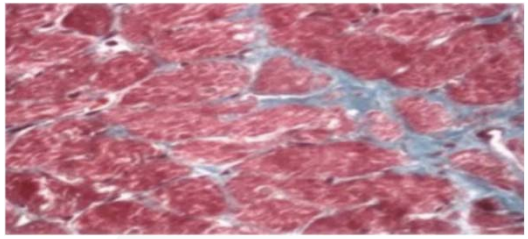
14-Week Control

Fibrous tissue (blue staining) is visible around blood vessels and extending between muscle fibres



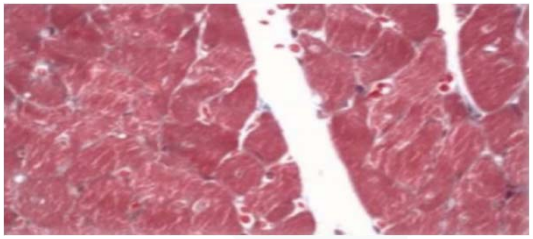
5% Ethanol 18-Week Control (Vehicle Control For VB0004)

Fibrosis visible as blue stained tissue is present throughout the section



Heart At 18 Weeks After 4-week Treatment with VB0004 (500 Pmol/Kg/Min)

Minimal fibrosis is visible; normal architecture has been restored



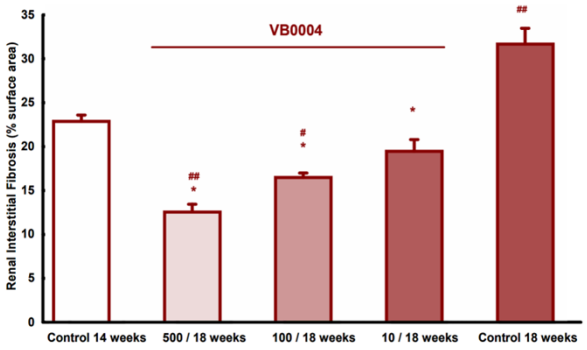
VB0004 & KIDNEY FIBROSIS

In the kidney VB0004 has been shown to:

- Reverse renal interstitial fibrosis at all doses
- Restore normal architecture at all doses

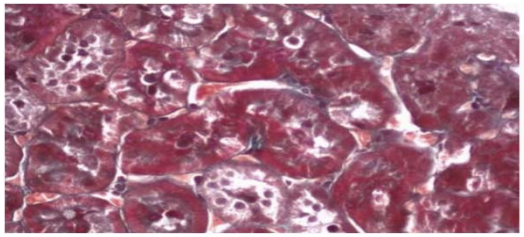
  (i.e. VB0004 is considered transformational)

Treatment with VB0004 at 3 Doses



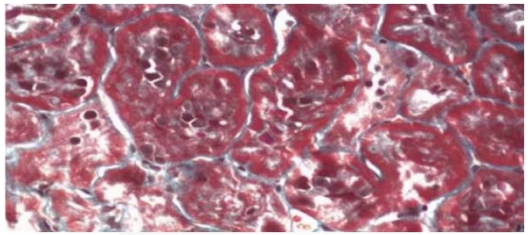
14-Week Control

Fibrosis (blue) partially surrounds some but not all tubukes



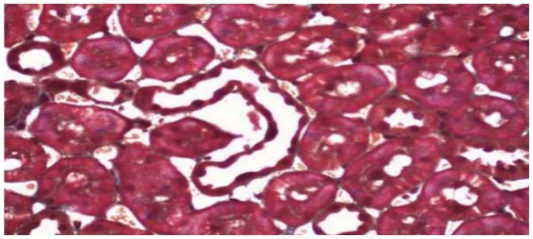
5% Ethanol 18-Week Control (Vehicle Control For VB0004)

Fibrosis has progressed to surround most tubules

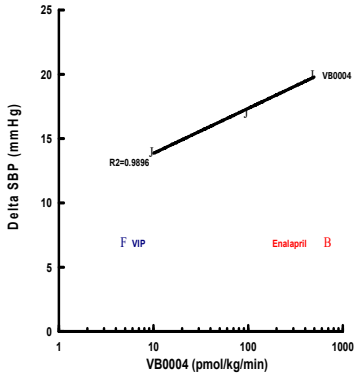


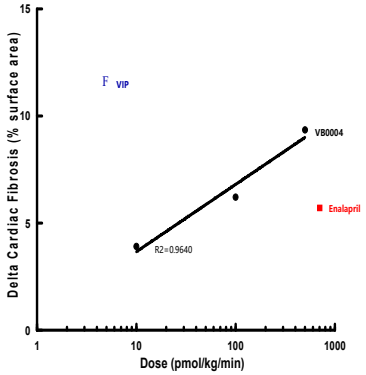
Kidney At 18 Weeks After 4-week Treatment with VB0004 (500 Pmol/Kg/Min)

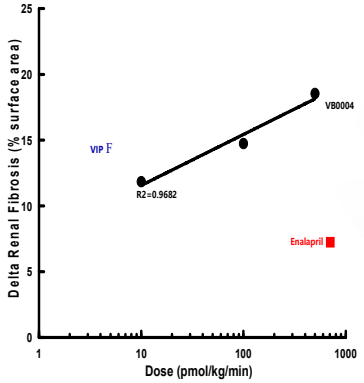
No fibrosis visible



Benchmarks





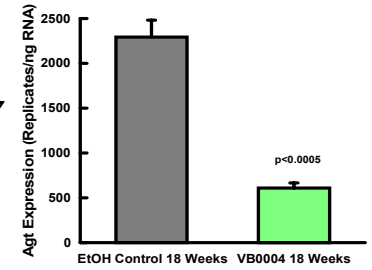


In these experiments enalapril was dose adjusted to provide the same reduction in SBP as VIP (5pmol/kg/min, blue). The dose of enalapril required was 705 pmol/kg/min (red). As can be seen in the above diagrams VB0004 at lower doses achieved greater reductions in SBP than enalapril (left). VIP (5pmol/kg/min) was superior to VB0004 at all doses in decreasing fibrosis in heart (centre) but was only better than the lowest dose of VB0004 (10 pmol/kg/min) in reducing renal fibrosis (right). In both heart and kidney VB0004 achieved much greater reductions in fibrosis at markedly lower doses than enalapril.

VB0004 – Fibrotic Mediators & CK Activity

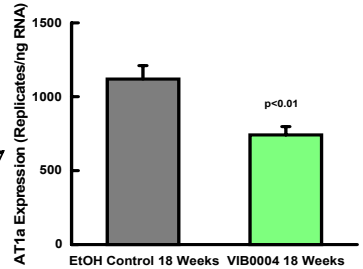
VB0004 treatment reduced:

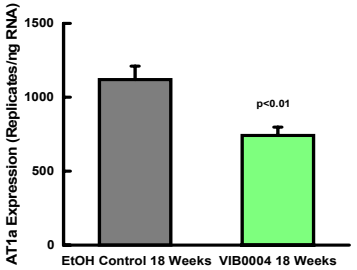
Ang II synthesis
(decreased Agt expression)



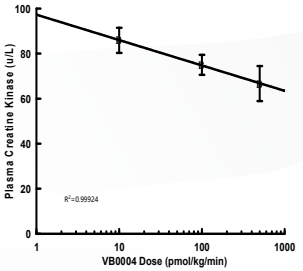
fibrotic mediator expression

AT1a
TNFα

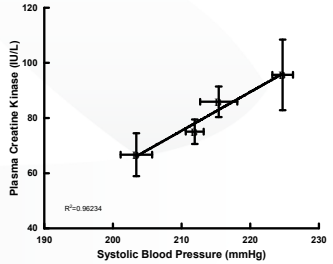




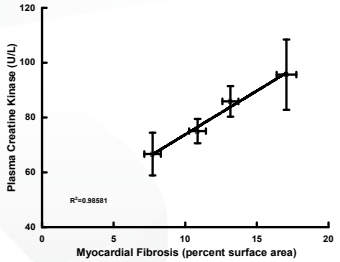
VB0004 reduced plasma CK activity in a dose related manner



Plasma CK activity was linearly related to blood pressure



Plasma CK activity was linearly related to cardiac fibrosis



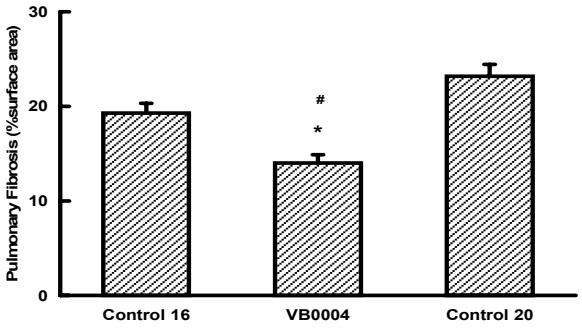
VB0004 & PULMONARY FIBROSIS

In the lung:

- VB0004 reversed fibrosis present 2 weeks after treatment with bleomycin (an anticancer drug)

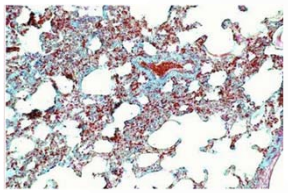
  (i.e. VB0004 also transformational in the lung)

Treatment with VB0004



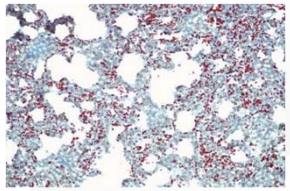
16-Week Control

Increased fibrosis (cyano), reduced capillaries (red dots)



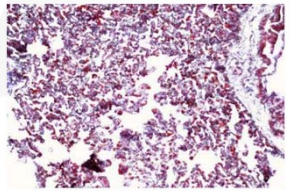
20-Week Control

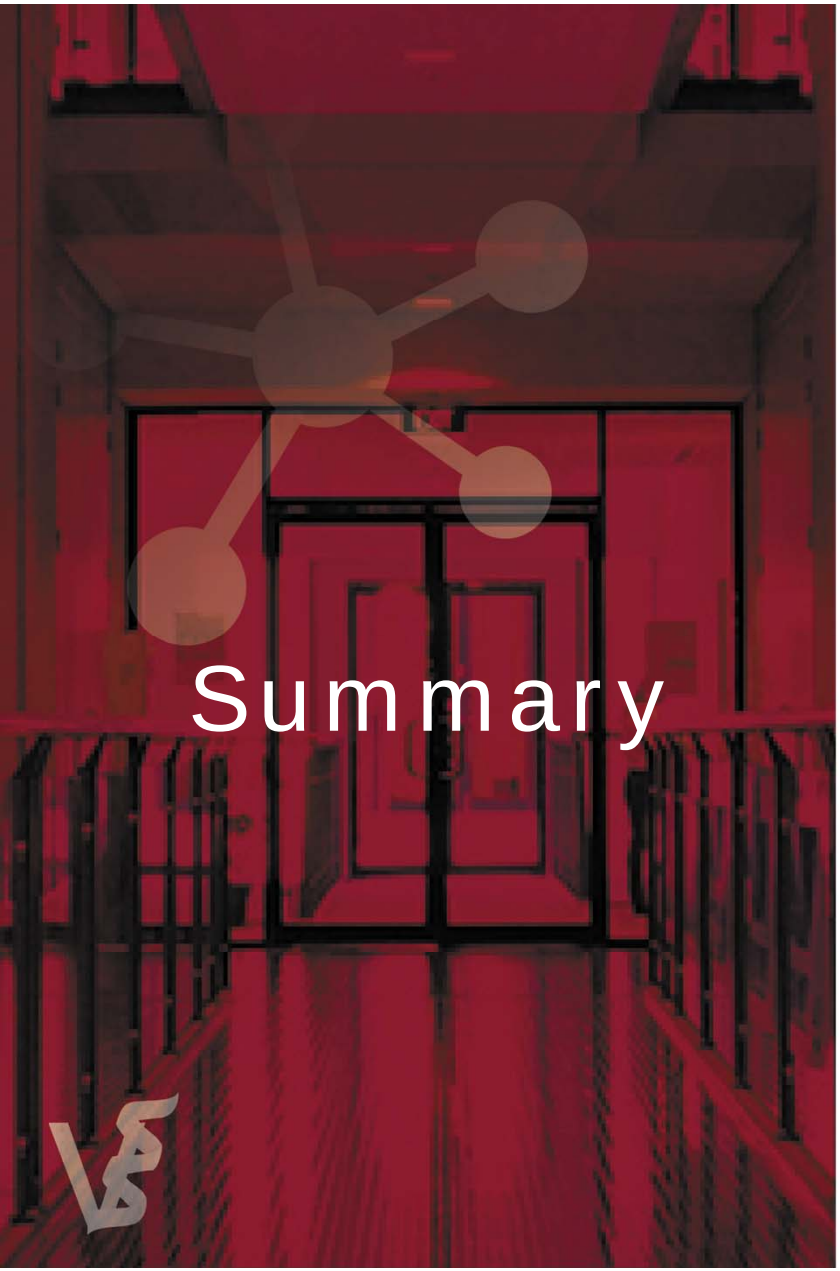
Increasing fibrosis, decreasing capillaries



VB0004 at 20 weeks

Fibrosis removed capillaries reconstituted

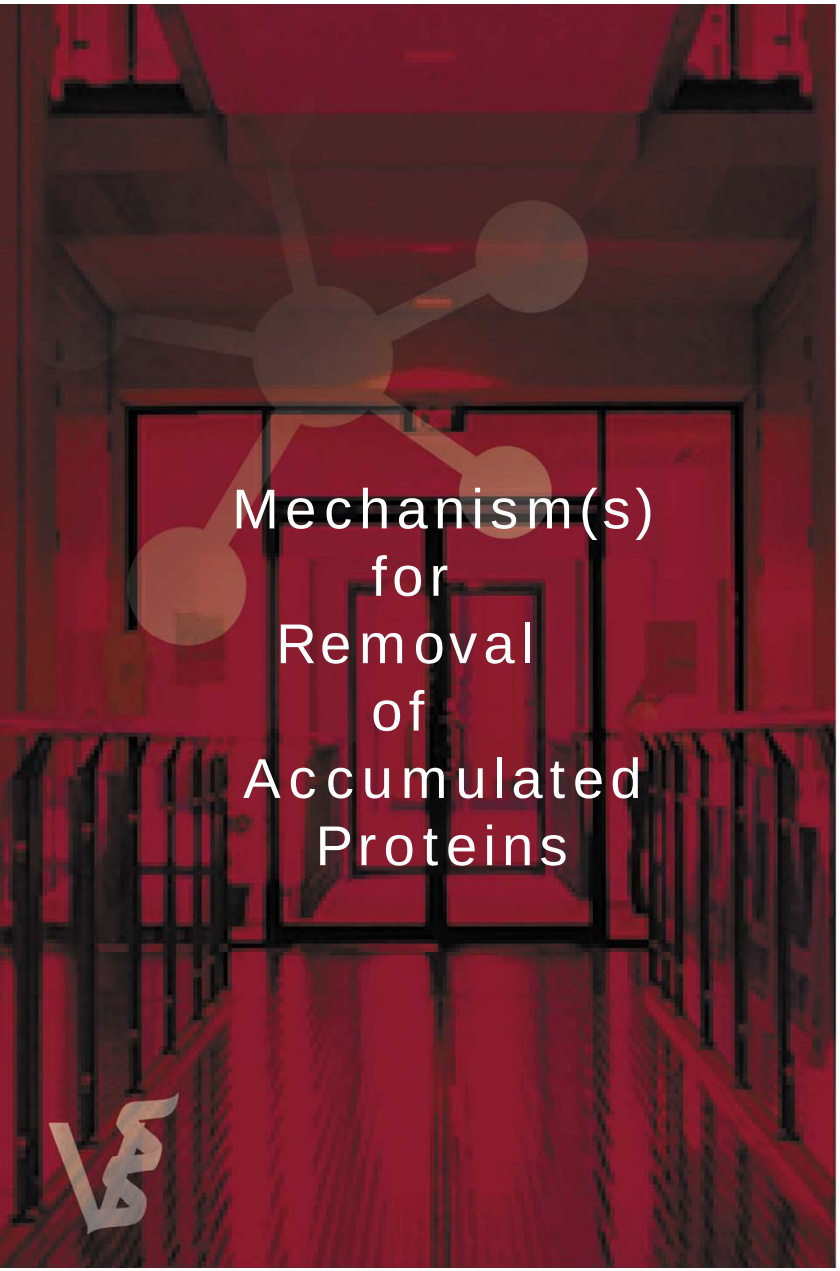




Summary

Treatment with VB0004

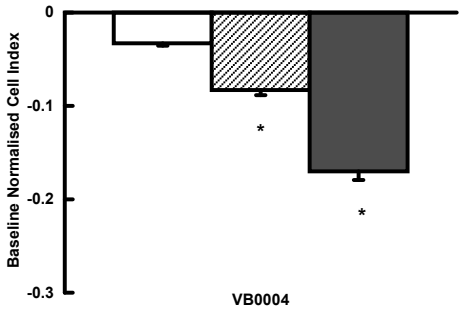
- Reduced profibrotic mediator expression
- Reduced Ang II synthesis
- Reduced CK activity (potential biomarker)
- Reduced SBP
- Removed accumulated protein in heart, lung and kidney (i.e. reversed established fibrosis)



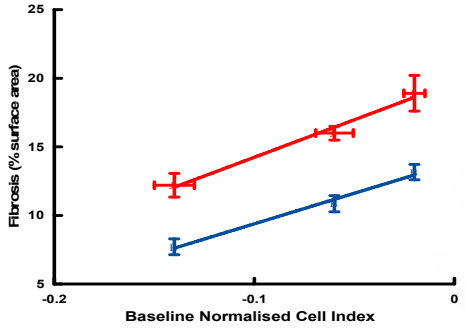
Removal of established accumulated proteins can be accomplished by

- Activating macrophages which then remove the protein
- Making protein fibrils more susceptible to protease digestion

Removal of Accumulated Proteins



Reversal of fibrosis in heart and kidney implies VB0004 stimulates/activates macrophages. To test this hypothesis RAW264 cells (a mouse macrophage cell line) were incubated with increasing concentrations of VB0004 in the xCELLigence RTCA, the graph above shows an increasing response with increasing concentration of VB0004 indicating a macrophage response to VB0004



Relationship between cellular impedance changes in RAW 264 cells and fibrosis in heart (blue R2=0.9898) and kidney (red R2=0.9873). The strong correlations suggest that macrophages typified by RAW 264 participate in the proteolytic activity required to restore normal tissue architecture which occurred with VB0004 treatment

INTELLECTUAL PROPERTY

VB0004 PATENT COVERS

- **Compositions of matter**
- **Methods of use**
- **Priority date September 2014**
- **Expiry 2034 (+5 years on FDA/EMA approval)**

VB0004 AND LUNG FIBROSIS

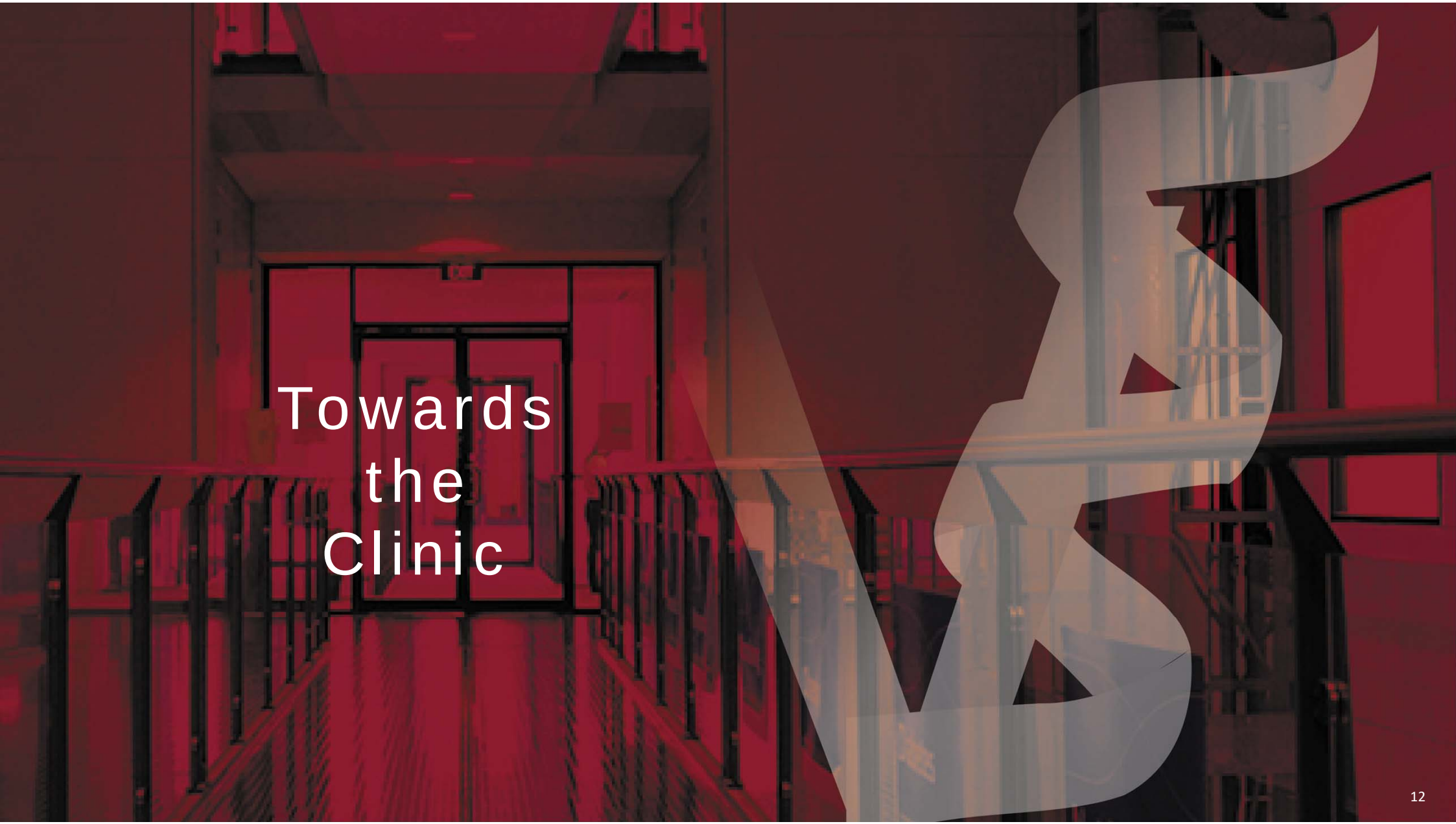
- **Methods of use**
- **Priority date July 2017**
- **Expiry 2037 (+5 years on FDA/EMA approval)**

VB0004 PATENT GRANTED IN ALL MAJOR JURISDICTIONS

- **USA, Europe, Japan, Peoples Republic of China, Republic of South Korea, Russian Federation**
- **As well as Australia, Israel, Philippines, South Africa, Canada, ARIPO**

VB0004 METHOD OF SYNTHESIS PATENT

- Priority date March 2017


Towards
the
Clinic

SYNTHESIS AT SCALE & COST

FIRST GMP SYNTHESIS BY GLYCOSYN

- **Yield increased as scale increased**
- **VB0004 manufactured to 5kg scale**
- **Cost efficient at 5kg scale < $(US)0.05 per mg**
- **Estimated dose 1-5mg**
- **Stability studies – stable at 2 yrs (long shelf-life)**

SECOND GMP SYNTHESEIS ASSYCHEM

- **Campaign planned to provide 3 validation batches**
- **Confirm consistency of the synthesis process**
- **Samples of all 3 batches will undergo 4 yr stability testing**
- **Meets FDA requirements for GMP manufacture for Phase 1 and 2 clinical trials**

DEMONSTRATED SAFETY
(extensive IND Toxicology)

SAD AND MAD (2 SPECIES)

- **Single Ascending Dose (SAD) to 2,000mg/kg no adverse events**
- **7 day Multiple Ascending Dose (MAD) to 2,000mg/kg no adverse events**
- **28 day MAD to 500mg/kg/day in dogs 1,000 mg/kg/day in rats no adverse events**

CARDIOVASCULAR SAFETY

- **hERG studies - low arrhythmia potential**
- **Dog cardiovascular safety – No effects on cardiovascular function at maximum dose of 10 grams**

RESPIRATORY SAFETY

- **Rat study no adverse events**

MUTAGENIC POTENTIAL

- **In vivo and in vitro tests low to no mutagenic potential**

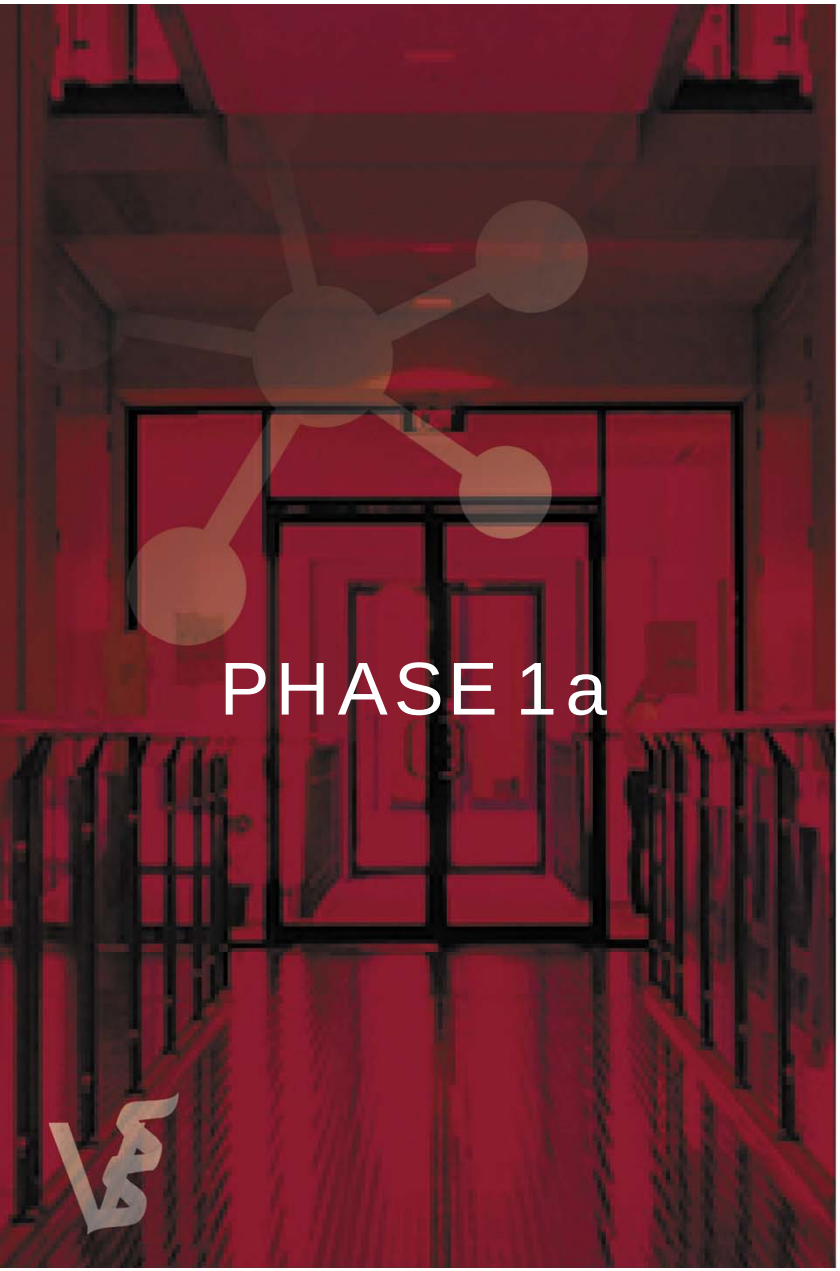
METABOLISM

- **Metabolites are the same in human, rat and dog**

DRUG INTERACTIONS

- **No Inhibition of major drug metabolising enzymes (drug interactions less likely)**


PHASE 1a



Outcomes

SAD

All planned doses were completed

No VB0004 related AE's

Maximum tolerated dose 300mg

Metabolised to VB4-glucuronide undergoes enterohepatic circulation

T_{max} occurred between 6 and 8 hrs post dose

$T_{1/2}$ between 10 and 15 hrs

Plasma concentration decreased by food , T_{max} and $T_{1/2}$ appear unchanged

MAD

All planned doses were completed

No VB0004 related AE's

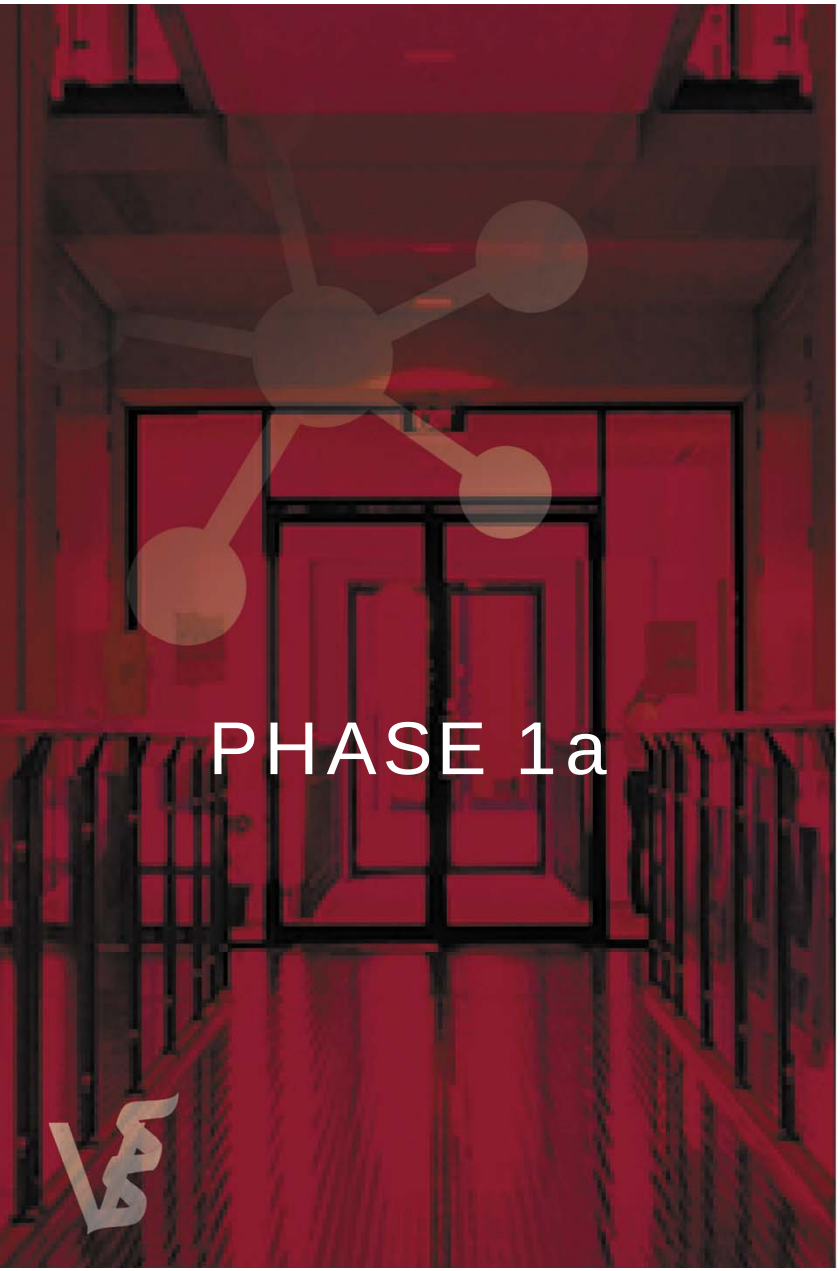
Maximum tolerated dose 100mg

Metabolised to VB4-glucuronide undergoes enterohepatic circulation

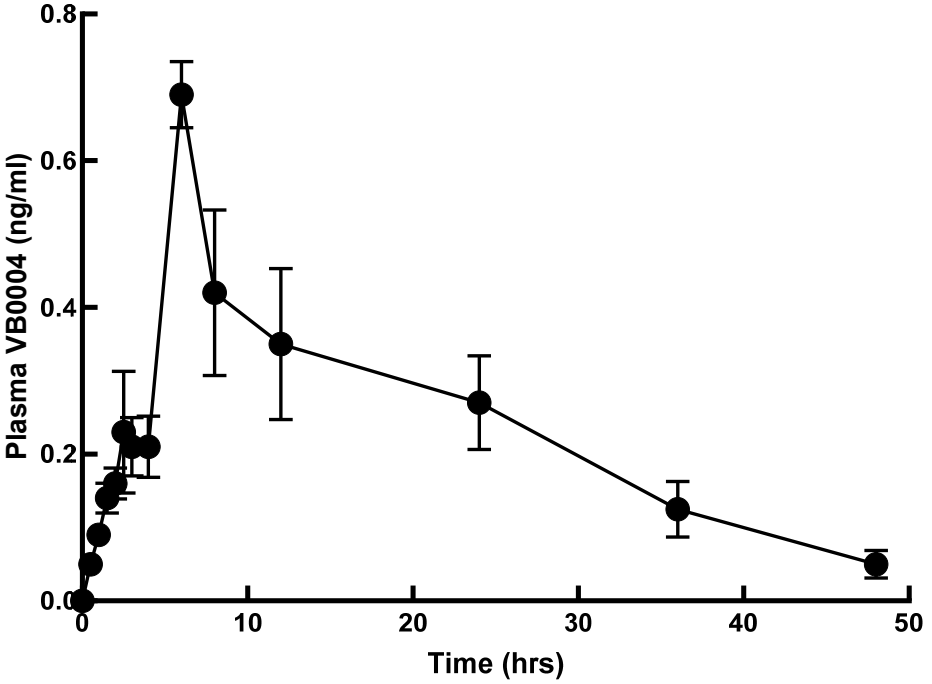
T_{max} occurred between 6 and 8 hrs post dose

$T_{1/2}$ between 10 and 15 hrs

Repeated dosing did not cause accumulation



Outcomes – PK Profile



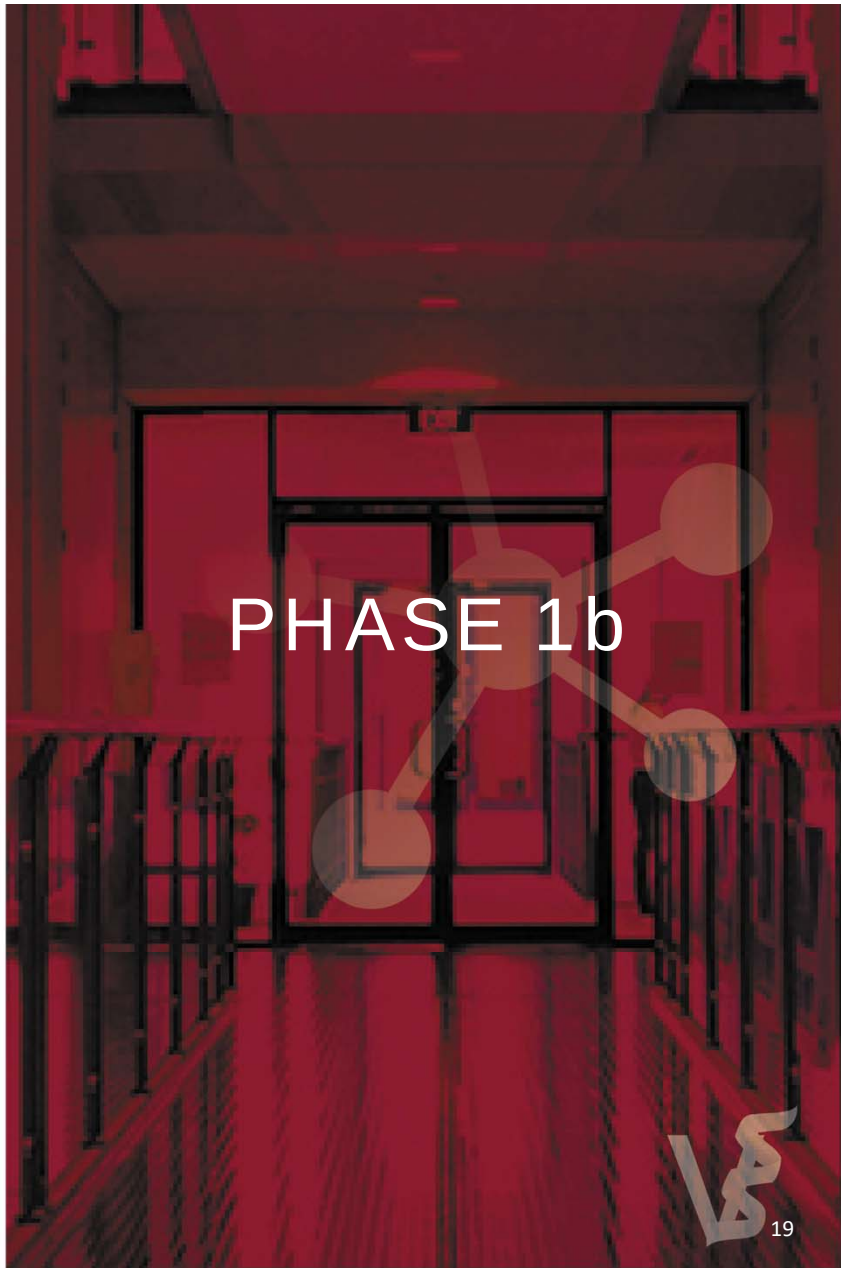

PHASE 1b

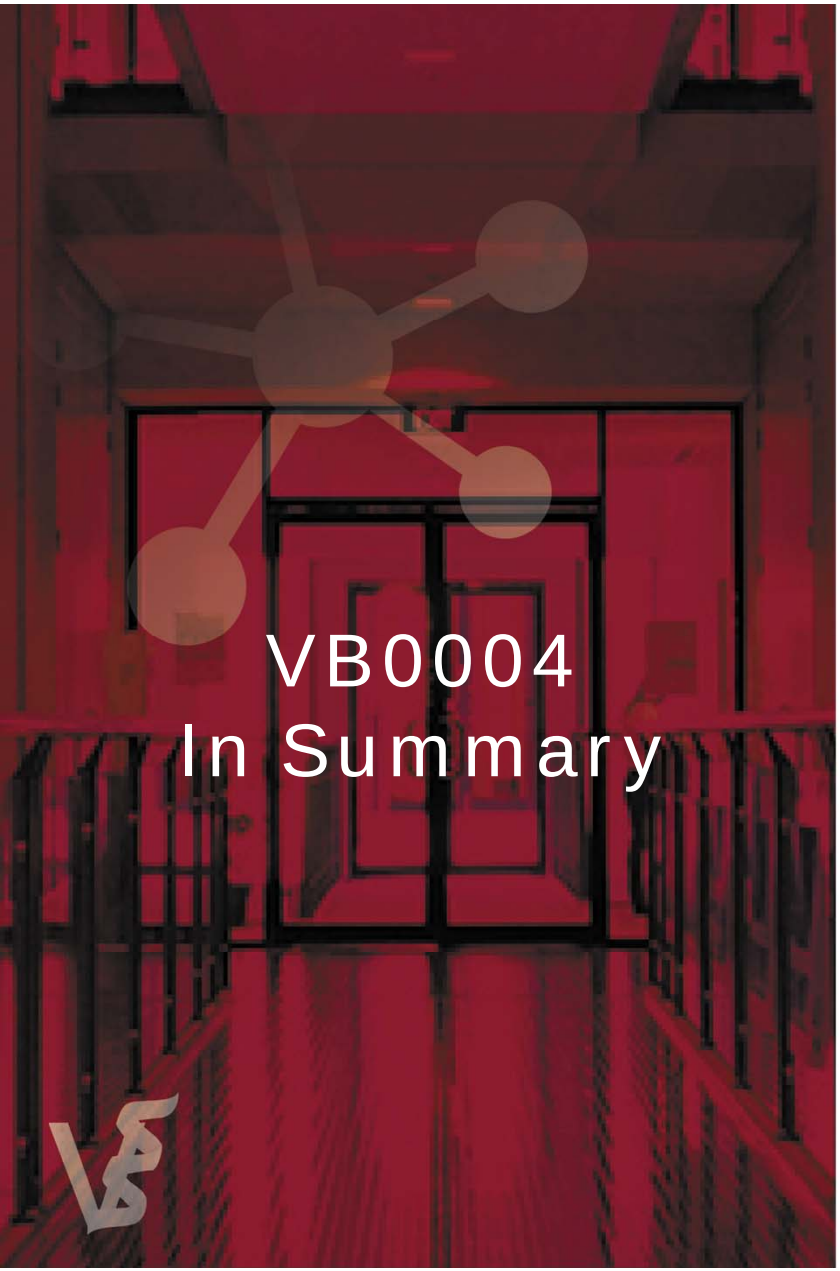
Aims – Possible Outcomes

demonstrate clinical efficacy of VB0004 (↓BP)
demonstrate via selected bio-markers anti-fibrotic actions of VB0004 on
- heart
and/or
- kidney

correlate ↓BP with VB0004 plasma concentrations
correlate changes in selected bio-markers with plasma VB0004

Currently recruiting





VB0004 In Summary

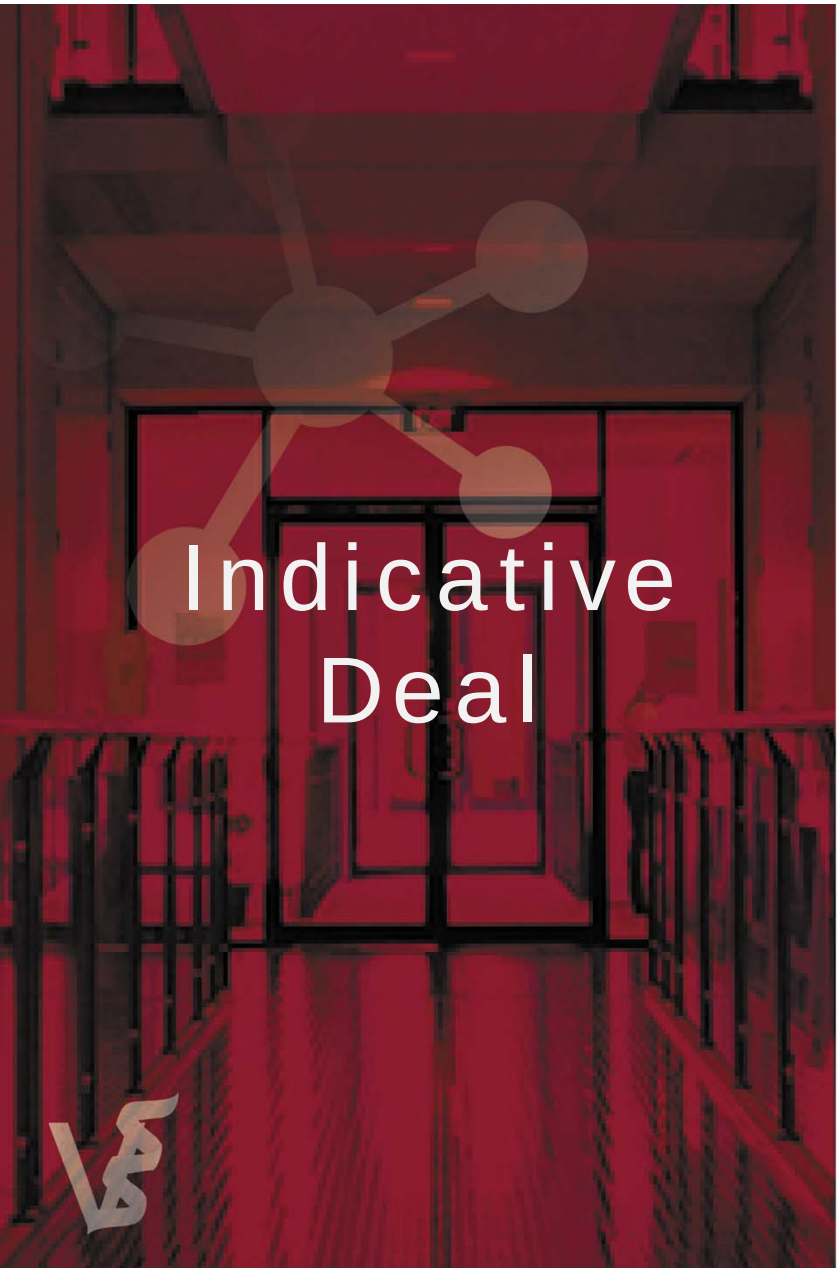
- **Fist in class therapeutic**
  - **VIP agonist**
- **Transformational agent**
  - **reverses existing disease**
  - **effective removal of deposited proteins**
  - **restores normal tissue architecture**
  - **effective in multiple organs**
- **Side effects**
  - **none discernible in animals or humans even at very high dose**
- **Pharmacokinetics**
  - **mane dosing with only minimal formulation**
- **Synthesis**
  - **3 steps**
  - **cost competitive ($0.05 /mg)**
- **Stability – exceeds 2 years**
- **Long patent life –expires 2034**

  (+5yrs on FDA/EMA approval i.e. 2039)

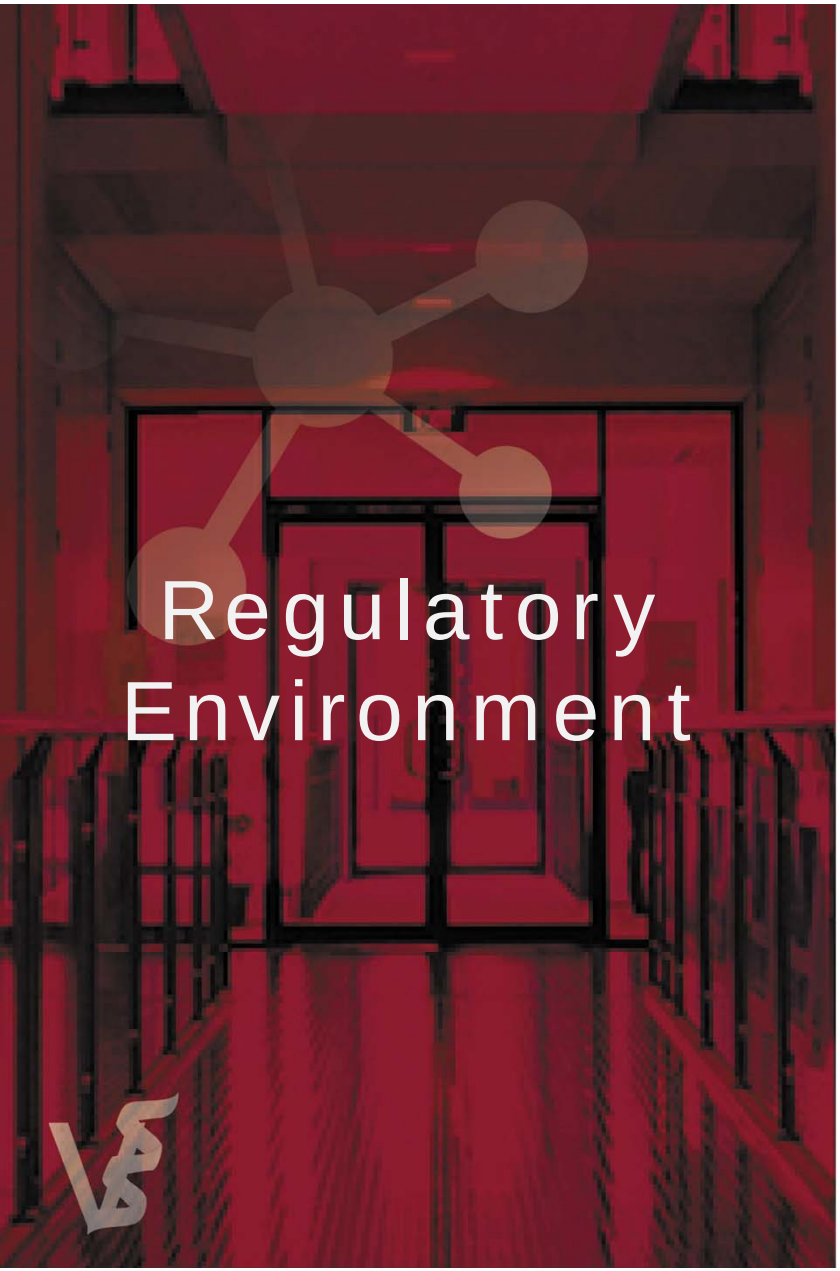

Austrade
BIO23 Advance Australia Delegation

Presentation from Merck (US) outlining their format for engagement.
Initial meeting – if interested pharma will ask for non-confidential deck.
Review non-confidential deck – questions and responses.
If wanting to proceed the next steps are for pharma to ask for CDA then a confidential deck.
Review confidential deck – questions and responses.
If wanting to proceed he next step is for pharma to ask for a “data room”. If they still wish to proceed a terms sheet, which details the up front payment, milestone payments etc.
It was emphasised that the process can be drawn out as pharma deliberates each step.

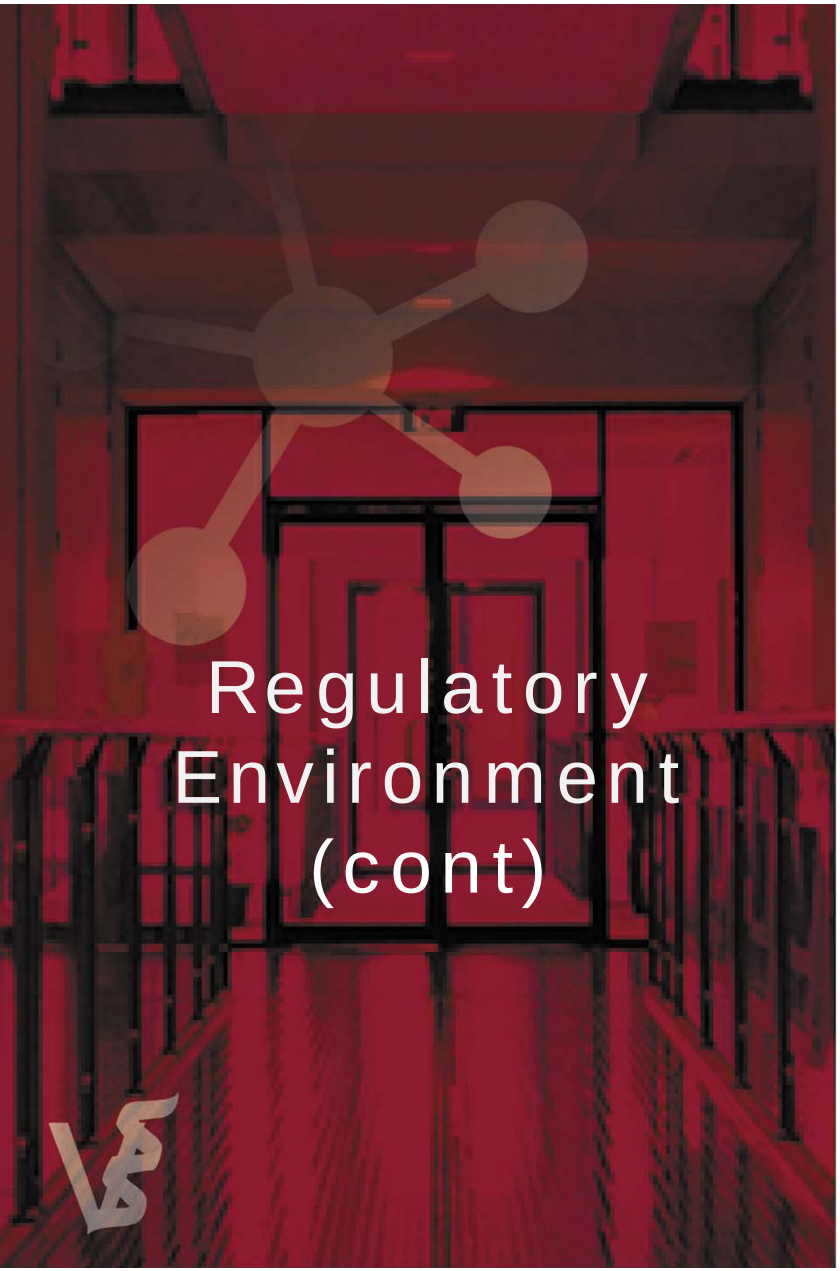
From our interactions European, Asian and US pharma all follow this format.



Upfront and near term milestones $100m
Milestones to licensing $1.2bn



Addition of fast-track category
Alzheimer’s disease,
heart failure
kidney failure



Regulatory Environment (cont)

Orphan/fast track status from FDA/
EMA Phase 2a for either
- Open label
- Approx 30 subjects

Followed by Phase 2b with 300-400 subjects
Apply for FDA/EMA approval

PATENT PORFOLIO

VIP patents for heart, kidney and aortic fibrosis

– granted all jurisdictions

VIP fragment patents compositions and methods of use for hypertension, cardiac, renal and aortic fibrosis

– granted most jurisdictions

VB0004 compositions and methods of use for hypertension, cardiac and renal fibrosis

– granted Russian Federation, Israel, Singapore, ARIPO, Canada, Philippines, South Africa, Ukraine, Vietnam, Nigeria, Mexico, accepted in Indonesia

VB0004 library of approx. 70 related compounds compositions and methods of use for treatment of hypertension, cardiac and renal fibrosis

– granted US, Australia, China, Europe, Japan, Korea, Russia, Ukraine, Hong Kong, Vietnam, Singapore, accepted in South Africa, ARIPO, Brazil, accepted Mexico

VB4-A32 and library of related compounds compositions and methods of use for treatment of hepatic, cardiac and renal fibrosis

– granted US, Europe, Australia, South Africa

VB4-P5 and library of related compounds compositions and methods of use for treatment of renal cell death, renal fibrosis and hepatic fibrosis

– granted US, China, Australia, South Africa, accepted Europe, Japan, Russia, Israel

GMP method of synthesis VB0004

– granted USA, Australia, India, accepted Europe, China

VB4-A79 and related compounds compositions and use for treatment of pulmonary fibrosis

– granted Australia, China, accepted USA, Europe, Mexico

VB0001 and related compounds compositions and use for management of hypertension and fibrotic disease

– PCT application

VB0002, VB0003 and VB0005 and related compounds compositions and use for management of hypertension and fibrotic disease

– national phase

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VECTUS BIOSYSTEMS