



## ASX ANNOUNCEMENT

ASX:NSB

### ***NeuroScientific to Present at 121 Tech Investment Conference in Hong Kong***

**Perth, Australia, 12 June 2019** – NeuroScientific Biopharmaceuticals (ASX:NSB) is pleased to announce that Matt Liddelow, CEO and Managing Director will be making a company presentation at the 121 Technology Conference to be held today and tomorrow at the Grand Hyatt in Hong Kong.

Focusing on growth stage companies, 121 Tech Investment Hong Kong is where technology growth companies engage Hong Kong's tech investment and finance community through a unique 1-2-1 meeting programme. 121 Tech Investment is built around two days of tailored investment meetings with listed tech funds, specialist private equity family offices and corporate VCs.

"I look forward to showcasing NeuroScientific to the sophisticated investor audience at the 121 Tech Conference this week as the company nears commencement of its inaugural human clinical studies as the next major step in finding a novel and effective treatment for neurological disorders such as Alzheimer's Disease," said Matt Liddelow.

The company's Chairman, Brian Leedman will also be presenting on an investment panel session entitled, 'Investing in BioPharma'.

Latest company presentation below:

#### **About Neuroscientific Biopharmaceuticals Limited**

NeuroScientific Biopharmaceuticals (ASX:NSB) is a company developing peptide-based pharmaceutical drugs that target a number of neurodegenerative conditions with high unmet medical demand. The company's product portfolio includes EmtinB, a therapeutic peptide initially targeting Alzheimer's disease, as well as other Emtin peptides (EmtinAc, EmtinAn, and EmtinBn) which have demonstrated similar therapeutic potential as EmtinB. For more information, please visit [www.neuroscientific.com](http://www.neuroscientific.com)

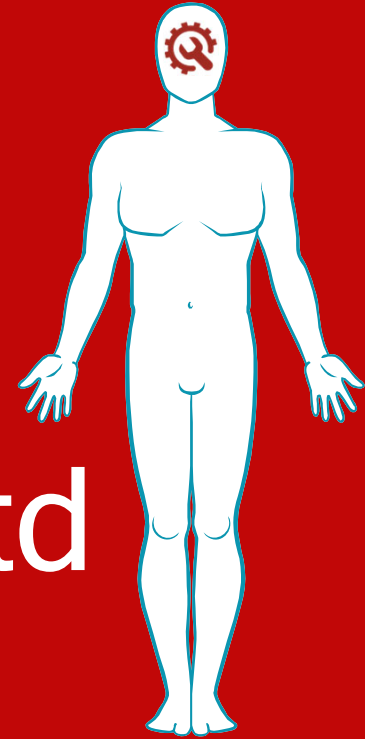
#### **Contacts**

Mr Matthew Liddelow  
CEO and Managing Director  
[ml@neuroscientific.com](mailto:ml@neuroscientific.com)  
+61 8 6382 1805

Thomas Spencer  
CFO & Company Secretary  
[ir@neuroscientific.com](mailto:ir@neuroscientific.com)  
+61 491 108 250

# NeuroScientific Biopharmaceuticals Ltd

ASX.NSB



NeuroScientific  
BIOPHARMACEUTICALS

Novel drug therapies for neurodegenerative  
conditions

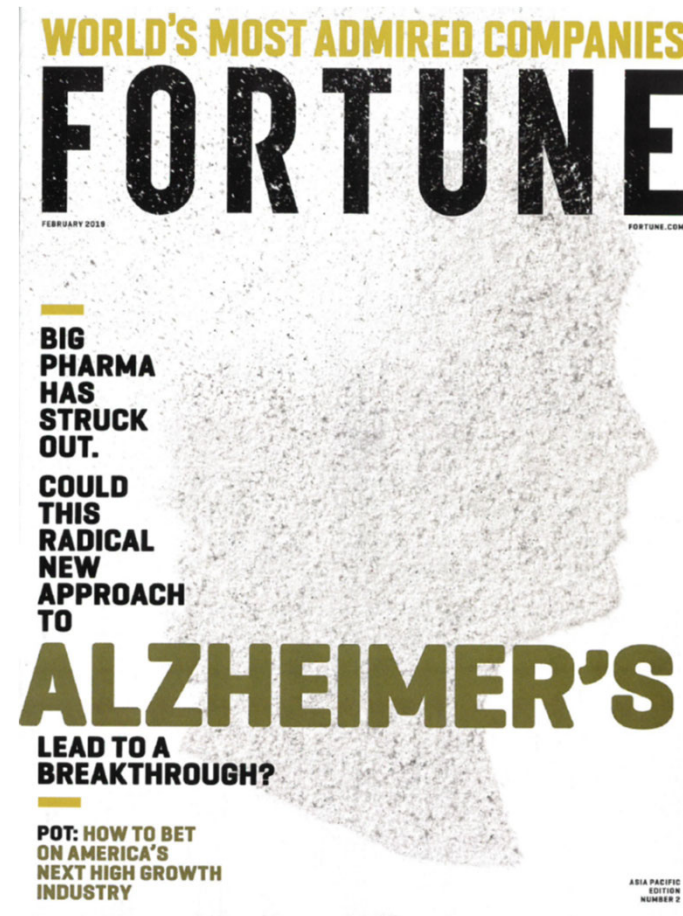
# DISCLAIMER

The purpose of the presentation is to provide an update of the business of NeuroScientific Biopharmaceuticals Ltd (“NeuroScientific”, or “the Company”). These slides have been prepared as a presentation aid only and the information they contain may require further explanation and/or clarification. Further information is available upon request.

The views expressed in this presentation contain information derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information. Any forward looking statements in this presentation have been prepared on the basis of a number of assumptions which may prove incorrect and the current intentions, plans, expectations and beliefs about future events are subject to risks, uncertainties and other factors, many of which are outside NeuroScientific’s control. Important factors that could cause actual results to differ materially from assumptions or expectations expressed or implied in this presentation include known and unknown risks. Because actual results could differ materially to assumptions made and NeuroScientific’s current intentions, plans, expectations and beliefs about the future, you are urged to view all forward looking statements contained in this presentation with caution.

This presentation should not be relied on as a recommendation or forecast by NeuroScientific. Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell shares in any jurisdiction.

# 'BIG PHARMA HAS STRUCK OUT'



## COMPANY HIGHLIGHTS



Advanced preclinical lead drug candidate with multiple treatment indications



Strong strategic partnerships geared towards success



Validated strategy and business model



Experienced board and management team

## Leadership Team



**BRIAN LEEDMAN**

Co-founder of ResApp Health Ltd (ASX.RAP), Imugene Ltd (ASX:IMU) and Oncosil Ltd (ASX.OSL). Formerly Director of Alcidion (ASX: ALC) and Chairman of Ausbiotech (WA)

**Non-executive Chairman**



**MATT LIDDELOW**

12+ years experience commercialising medical devices and pharmaceuticals for Multi-national companies including AstraZeneca

**MD & CEO**



**ANTON UVAROV PhD**

Founding director of Actinogen Medical (ASX:ACW) an advanced Alzheimer's biotechnology company. Former Equities Analyst with Citigroup, US

**Executive Director**



**STEPHEN QUANTRILL**

20 years' experience in corporate advisory and company directorship, Executive Chairman of McRae Investments

**Non-executive Director**

## TREATMENT MARKETS WITH UNMET NEED

### Alzheimer's disease



48M people globally  
have dementia

70% of dementias  
Alzheimer's disease

US \$818B global  
economic burden

US\$5B drug sales pa

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### Optic nerve conditions



5% of population  
suffer vision loss due to  
damaged optic nerve

60M people  
affected by glaucoma

US\$3B sales pa

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## ALZHEIMER'S DISEASE: The need for novel therapeutics

Drugs targeting the beta-amyloid protein have all failed in late-stage clinical trials...

- Pathology of Alzheimer's disease still not definitive
- Drugs may have been administered too late
- Patient selection for clinical trials

Frequency of Alzheimer's disease could be reduced by 50% if the onset could be delayed by 5-years



# ALZHEIMER'S DISEASE:

## The need for novel therapeutics

Drugs targeting the beta-amyloid protein have all failed in late-stage clinical trials...

- During 2018 alone, Eli Lilly, AstraZeneca, Johnson & Johnson, Merck, and Eisai / Biogen all halted clinical trials
- 20-years of research and BILLIONS of \$ focused on beta-amyloid plaques has not translated to any effective treatment
- Recent note-worthy publications - The Economist and Fortune have publicized the need alternative approaches, with neuroprotection the most promising pathway; prestigious medical journal Nature recently published a study supporting NSB's treatment approach
- NSB is the only company in the world actively pursuing the alternative approach of combating Alzheimer's through active neuroprotection mechanisms via the LRP-1 receptor.



# LEAD CANDIDATE: EMTINB



## NOVEL

- Modeled on Metallothionein (MT-II) - a well known neuroprotective and neurogenerative compound, with EmtinB showing superior drug properties
- Binds LRP-1 receptors - novel Mechanism of Action (MOA)
- Stops cell death & stimulates regeneration



## VALIDATED

- Preclinical in vitro models - successfully repeated
- Animal models demonstrated efficacy and unique properties

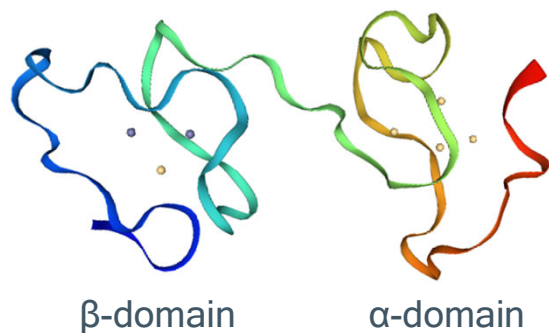


## MULTIPLE INDICATIONS

- MOA: LRP-1 receptor ubiquitous
- Not directly targeting a process of disease

## EVOLUTION OF EMTINB

### MT-II Structure



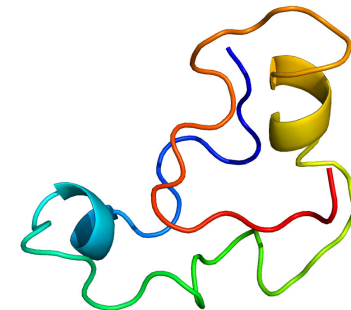
- ▶ 61 amino acid length
- ▶ Binds divalent metal ions
- ▶ Difficult to manufacture

### EmtinB Peptide



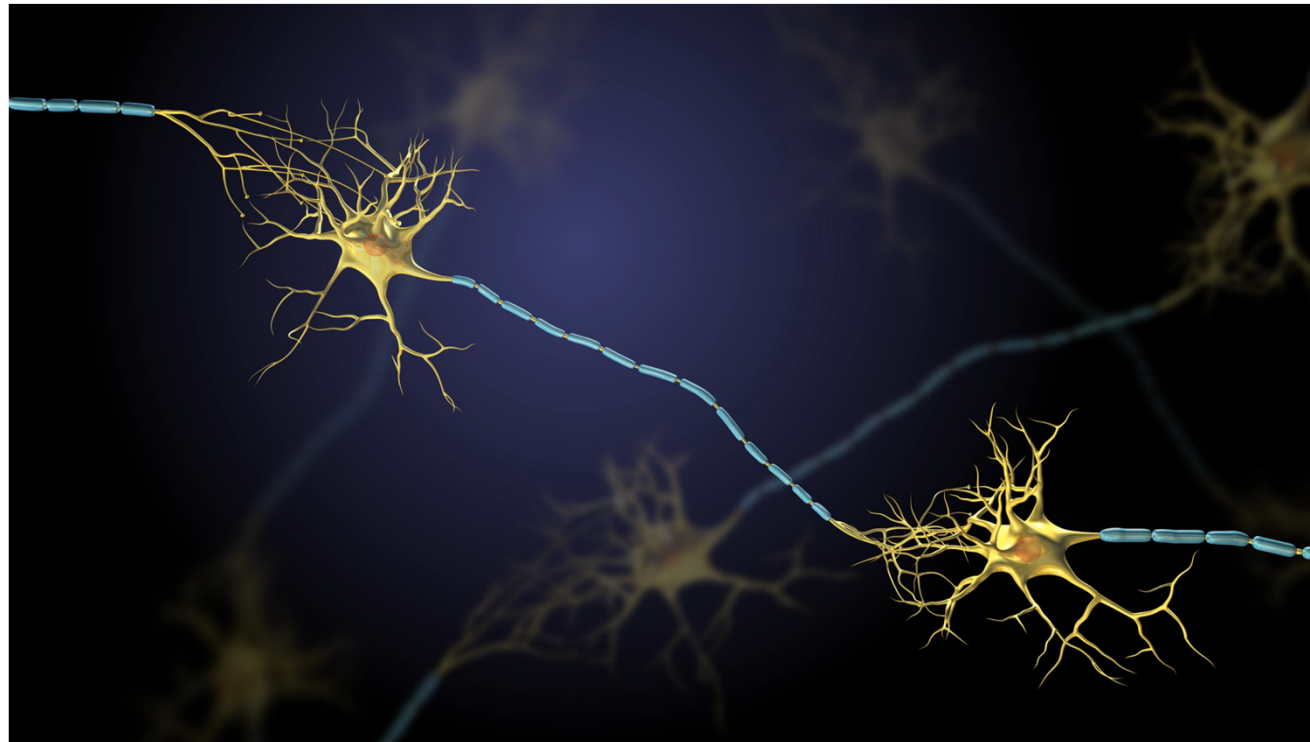
- ▶ 14 amino acid length
- ▶ Isolated from the β-domain of MT-II protein

### EmtinB Peptide Dendrimer



- ▶ Synthesised as a dendrimer:
  - Increased potency and stability

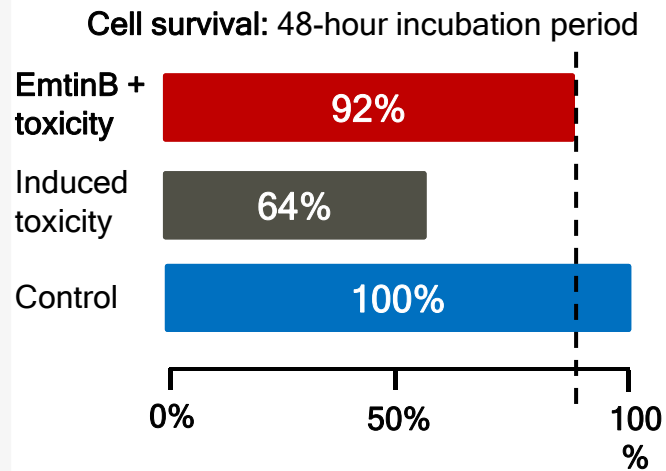
## EMTINB MECHANISM OF ACTION: Binding LRP-1 receptor



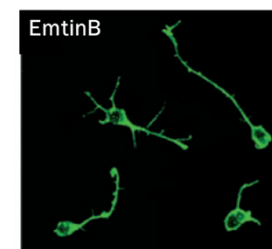
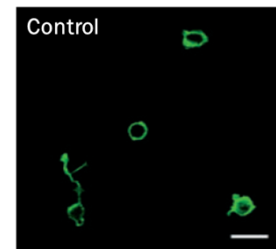
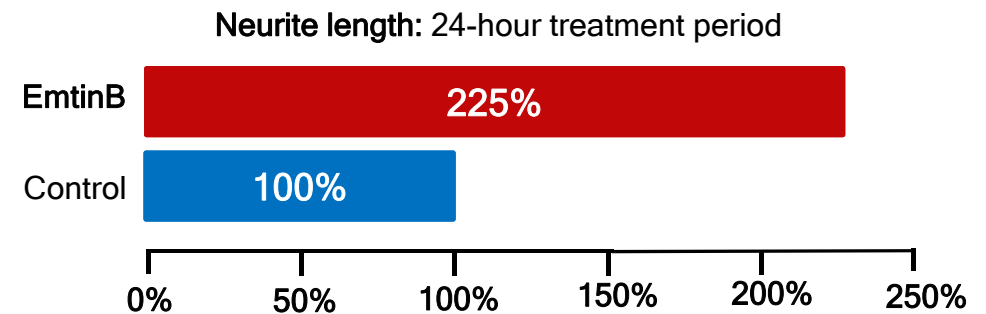
# EMTINB SCIENTIFIC DATA

## Preclinical studies

Increased mean survival of  
brain cells >90%



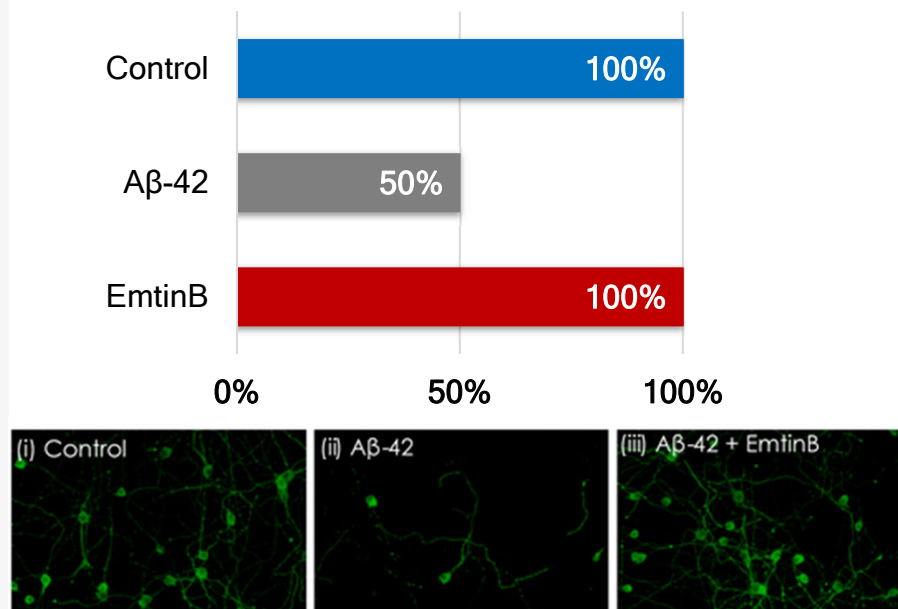
Stimulates neurite  
outgrowth by up to 300%



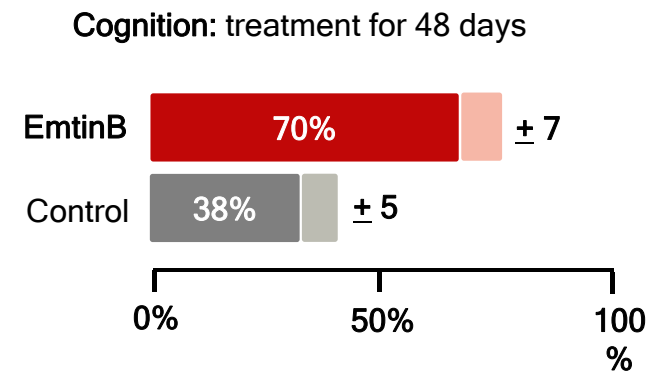
# EMTINB SCIENTIFIC DATA

## Preclinical studies in AD models

Prevented cell death in *in vitro*  
Alzheimer's model of toxicity



Slowed progression of disease  
(memory impairment) by >80%  
in Alzheimer's animal model

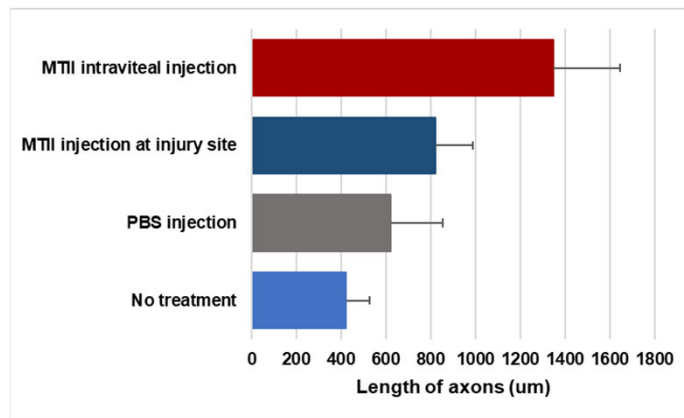


# SUPPORTING SCIENTIFIC DATA

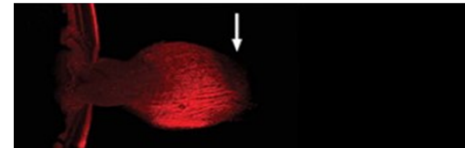
## Regenerating the optic nerve

- ▶ Precursor to EmtinB (MT-II) stimulated regenerative growth of optic nerve after complete surgical transection
- ▶ Promotes axonal regeneration through an inhibitory environment in vivo

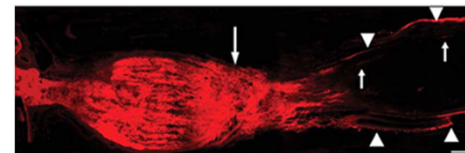
### Optic Nerve Growth



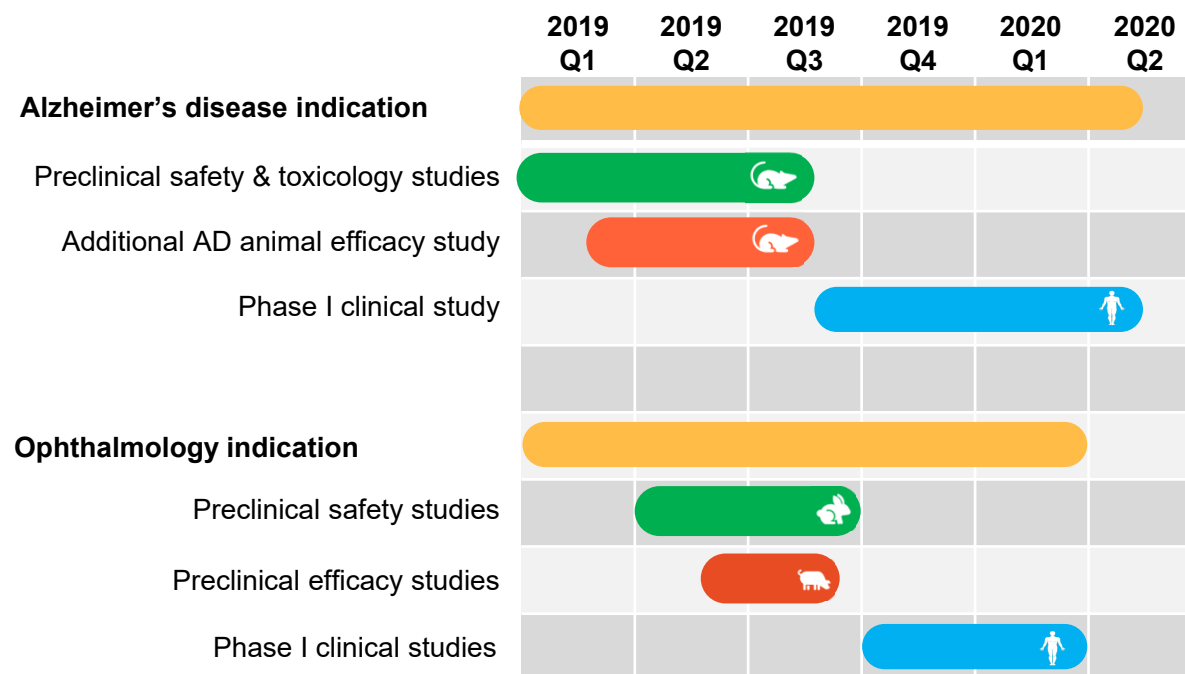
No treatment



Treatment



# EMTINB DEVELOPMENT SCHEDULE





## STRATEGIC PARTNERSHIPS



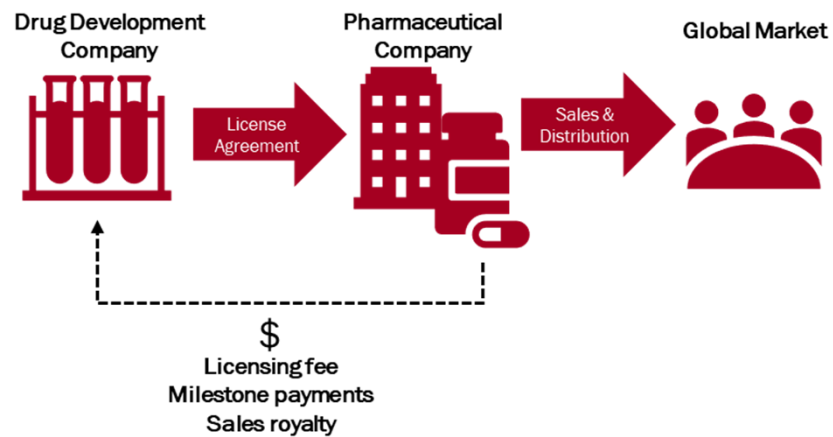
- ▶ Partner for preclinical studies
- ▶ Managed >3300 unique compounds
- ▶ >500 IND/CTD programs in the last 5-years
- ▶ Offer complete development solution from preclinical to clinical to market



- ▶ Partner for ophthalmology studies
- ▶ Developed 1<sup>st</sup> artificial cornea
- ▶ Developed 1<sup>st</sup> transgenic animal model for macular degeneration
- ▶ Glaucoma treatment recently acquired by global pharma Allergan

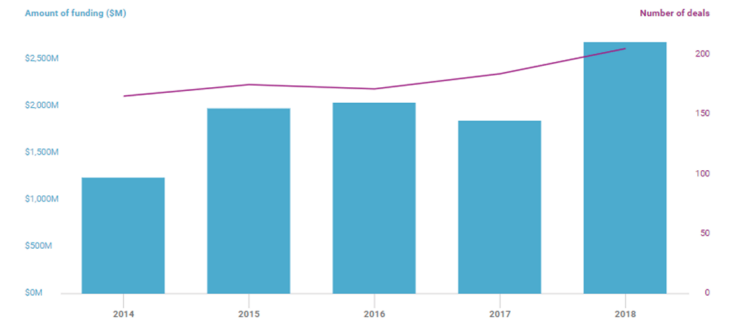
# BUSINESS MODEL

- ▶ Company will seek to out-license EmtinB for late-stage clinical development
- ▶ Potential for multiple treatment indications will be attractive to “big pharma”



## Neuroscience startups saw an increase in funding in 2018

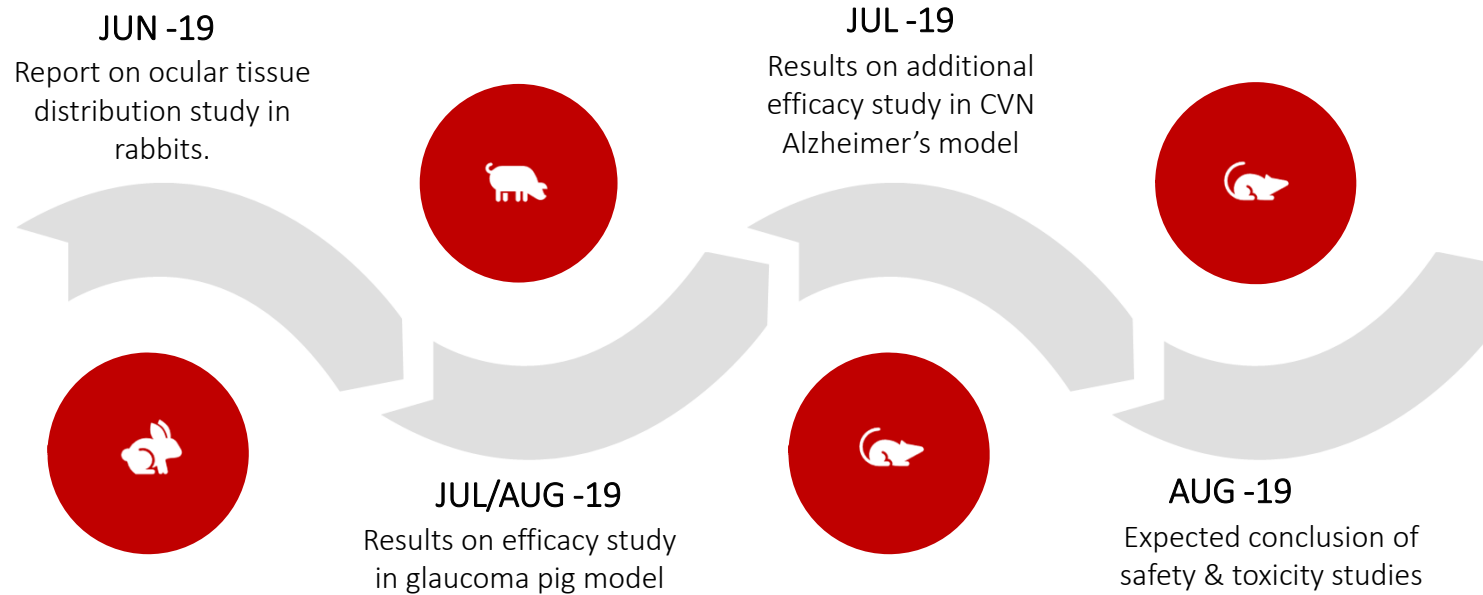
Funding activity between 2014 – 2018



Source: cbinsights.com

CBINSIGHTS

## KEY MILESTONES



## CORPORATE OVERVIEW

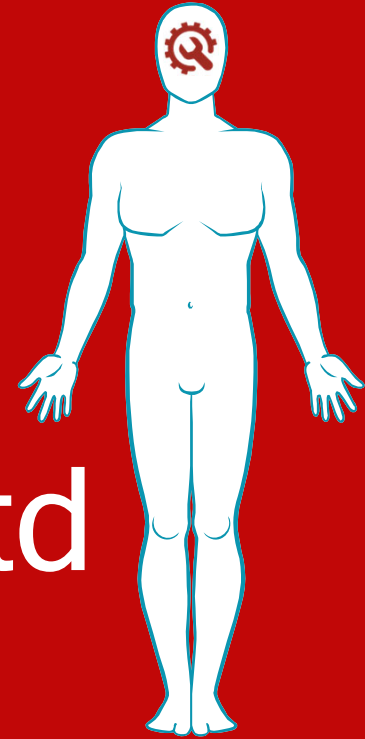
- ▶ Completed IPO listing on the ASX on the 27 July 2018
- ▶ Lead candidate funded through to completion of Phase I
- ▶ Pipeline of potential therapeutic candidates with strong IP protection

### Capital Structure

ASX code	NSB
Shares on issue	73,580,592
Price (close 23/05/2019)	\$0.14
Market cap	\$10.3M
Shares escrowed 12-months	1,906,269
Shares escrowed 24-months	19,349,506

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BIOPHARMACEUTICALS

Novel drug therapies for neurodegenerative  
conditions