



Bell Potter Healthcare Conference

**26 November 2020** 

**ASX Code: IXC** 



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# **Company Snapshot**



Company	
Repurposed Proven Drug	Presendin™ (Exenatide)
Clinical Stage	Entering Phase III
Orphan Disease Focus	Idiopathic Intracranial Hypertension (IIH)
Orphan Designation Granted	USA + EU
Total Addressable Market	\$1.6 billion annually (US/EU)
Valuation Drivers	Clinical, regulatory, patent

Capital	
Shares on Issue	75.2 million
Unlisted Options	3.9 million
Cash (30 Sep-20)	\$33.9 million
Market Capitalisation (11 Nov-20) <sup>1</sup>	\$63.9 million
Enterprise Value (11 Nov-20)	\$30.0 million

<sup>1</sup>Based on closing price of \$0.85

Major Shareholders	
Directors / Management	16.8%
Tattarang	11.8%
Tisia Nominees Pty Ltd	5.3%
JK Nominees Pty Ltd	5.0%
University of Birmingham	2.7%
Top 20 Shareholders	63.8%

#### **Board of Directors**



Dr Jason Loveridge	Chairman
Professor Alexandra Sinclair	Executive Director & Chief Scientific Officer
Mr David McAuliffe	Non-Executive Director
Dr Tom Duthy	<b>Executive Director</b>





# A clinician's perspective on Idiopathic Intracranial Hypertension (IIH)

Professor Alexandra J. Sinclair MBChB, MRCP, PhD

- Institute of Metabolism and Systems Research
- Professor of Neurology, University of Birmingham
- Chief Scientific Officer & Executive Director Invex Therapeutics



# **Invex Therapeutics - Executive Summary**

Clinical stage drug development Company targeting the orphan disease Idiopathic Intracranial Hypertension (IIH)





- IIH Total Addressable Market (TAM) in the US and Europe of A\$1.6 billion per annum and growing at 3.4% per annum
- Unencumbered drug therapy market no approved treatments, no new treatments in clinical trials
- Urgent market need, chronic administration required



#### **Supportive Clinical Data**

- Strong Phase II clinical data clear statistical and clinical evidence of efficacy in primary and secondary endpoints demonstrating a strong and sustained drug effect in the IIH population
- No significant safety concerns over 12 weeks of treatment
- Plan to commence Phase III registration trial in 1H CY2021



#### **Significant Barriers to Competition**

- Orphan drug designation in US (7 years exclusivity) and Europe (10 years exclusivity)
- Issued and pending patents for use of Exenatide in IIH. Formulation patents filed Q1 2020



# What is Idiopathic Intracranial Hypertension (IIH)?



#### The Disease<sup>1</sup>

- >90% of cases are overweight women of childbearing age, with no known cause (idiopathic): approx. 4.7 per 100,000
- >90% suffer headaches that are progressively more severe and frequent: major cause of morbidity
- Up to 25% suffer permanent vision loss due to elevated intracranial pressure (ICP) effect on optic nerve function



#### The Impact<sup>2</sup>

- Invasive surgical and/or device interventions to temporarily lower ICP and preserve vision (significant side effects)
- 40% of patients have repeat hospital admissions, with average stays of 2.7 days
- Significant impact on quality of life and rapidly rising healthcare costs e.g. £462M in UK by 2030 (5x increase on 2017)



#### The Solution

- Prof. Alex Sinclair (Invex CSO & Exec. Director) first to demonstrate glucagon like peptide 1 (GLP-1) receptor agonists commonly used in diabetes treatment (Exenatide formulated as Byetta® or Bydureon®) act on the choroid plexus in the brain to lower cerebral spinal fluid secretion and as a consequence, ICP
- Exenatide strong scientific basis for benefit, well defined mechanism of action, patents secured re-purposing opportunity to improve safety & efficacy → Presendin™
- Invex Phase II study in IIH first clear demonstration of safety & efficacy in IIH



# Invex Phase II trial - design & outcomes

#### **Study Purpose**

 Obtain first clinical proof of concept for Exenatide in IIH and provide a basis to move into pivotal Phase III trial by leveraging orphan drug status in Europe and the United States

#### **Efficacy Outcomes**

- Primary Endpoint (reduction in ICP) Met 18-21% reduction across three time points; statistically significant and clinically meaningful
- Secondary Endpoint (Headache) Met statistically significant & clinically meaningful reduction in headache days (7.7 days / 37% versus placebo)
- Secondary Endpoint (Vision) <u>Met</u> statistically significant & clinically meaningful improvement in visual acuity (0.1 logMAR improvement at 12 weeks, equivalent to one line of visual acuity)

#### **Safety Results**

- No serious adverse events (SAEs) were observed related to the use of Exenatide
- Overall, adverse events were relatively low, with nausea the most common seen in >85% of patients treated with Exenatide
- Nausea is a known and the most frequent AE of sub-cutaneous administration of this formulation of Exenatide (Byetta®)

#### **Conclusion**

Strength of the outcomes for both primary & key secondary clinical endpoints from the Phase II study implies a clear & strong drug effect in the IIH population & supports progression to a Phase III clinical trial for registration in the USA and Europe.

# Randomised double blinded placebo controlled clinical study • n=16 • Female 18.60 years old

Change in intracranial pressure @ 2.5hrs, 24hrs and 12 week

Exploratory endpoints – headache & vision

Headache frequency, severity, duration, analgesic use, HIT-6

Visual field assessment, visual acuity, OCT measurement





# **Regulatory update**

Strength of the outcomes for both primary & key secondary clinical endpoints from the Phase II study implies a clear & strong drug effect in the IIH population & supports progression to a Phase III clinical trial for registration in the USA and Europe



#### **European Medicines Agency (EMA)**

- One well controlled study providing compelling evidence of safety and efficacy required for marketing authorisation application (MAA) in EU
- CHMP<sup>1</sup> recommended ICP as primary endpoint versus placebo
- Noted headache would also be a clinically meaningful endpoint
- Broad acceptability of Invex's pre-clinical package and human PK study plans
- Follow up submission for advice lodged in October 2020
- Ascertain acceptability of headache based primary endpoint for Phase III trial
- Following feedback in late Q4 CY2020, Invex intends to submit a Clinical Trial Application (CTA) within select European countries in 1H CY2021
- Single pivotal clinical trial for registration of Presendin™ in EU expected to commence thereafter



## US Food and Drug Administration (FDA)

- Initial submission asked for advice on either headache or vision as the preferred primary endpoint – reviewed by Division of Ophthalmology
- Requested a complete protocol and statistical analysis plan prior to detailed scientific advice
- Reduction in headache days of moderate to severe headaches a clinically meaningful endpoint
- Broad acceptability of Invex's pre-clinical package
- Detailed protocol assistance to be sought post-response from CHMP
- Although outside Invex's control, with headache-based endpoint, it is logical to expect a pre-IND / type B meeting with Division of Neurology
- Pre-IND meeting expected Q1 CY2021

July 2020: First Response to

July 2020: First Response to Protocol Assistance

October 2020: Second Protocol

# **Summary & Outlook**

- Large, growing market for IIH with no approved medical interventions
- Orphan Drug Designation in the USA and EU provides expedited, cost-effective clinical trial recruitment, reporting and approval/registration as well as commercial exclusivity for up to 10 years
- Strong Phase II clinical data established
- Financial:
  - \$33,9M in cash following capital raise in O2 CY2020 expected to fully fund completion of a Phase III clinical trial in IIH
  - Very attractive \$30.0M Enterprise Value (EV) considering stage of development and market attributes
  - Large EV discount to ASX-listed orphan (ASX:CUV, ASX:NEU, ASX:RAC), ophthalmic (ASX:OPT) and re-purposing (ASX:PAR) companies

#### 12 Month Milestones:

- Response from EMA expected late 04 CY2020
- Final Formulation Q4 CY2020
- Appointment of contract manufacturer Q4 CY2020
- Pre-IND Submission / Type B Meeting with FDA expected Q1 CY2021
- Subject to availability of GMP Presendin<sup>TM</sup>
  - Human PK study to commence 1H CY2021
  - Animal tolerability study to commence 1H CY2021
  - Filing of a CTA in Europe for Phase III clinical trial 1H CY2021





Thank you

# **Contacts**



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