

### **Neurizon Presents Company Update and 2025 Outlook**

**12 December 2024 – Melbourne, Australia:** Neurizon Therapeutics Limited (ASX: NUZ & NUZOA) ("Neurizon" or "the Company"), a clinical-stage biotech company advancing treatments for neurodegenerative diseases, is pleased to announce a presentation by Dr. Michael Thurn, the Company's Managing Director and CEO, to update the shareholders about the Company's latest developments and 2025 Outlook.

The presentation, titled "Shaping the Future of Neurodegenerative Diseases: Neurizon's Mid-Year Update & Outlook" outlines the following:

- The Company's strategy and a clear focus on transforming the horizon of neurodegenerative disease treatments and bringing NUZ-001 to market for the treatment of Amyotrophic Lateral Sclerosis (ALS).
- Deep dive into the latest positive preclinical results for NUZ-001, demonstrating the effectiveness in reducing the aggregation of TDP-43, a key pathological feature of ALS.
- Company's regulatory success and future milestones.
- Preparation and key activities for the participation in Phase 2/3 HEALEY ALS Platform Trial.

Presentation slides are available as an attachment to this announcement. The recording of the presentation will be made available on Neurizon's website at <a href="https://www.neurizon.com">www.neurizon.com</a>.

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This announcement has been authorized for release by the Board of Neurizon Therapeutics Limited. For further information, please contact:

Dr. Michael Thurn

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#### **About Neurizon Therapeutics Limited**

Neurizon Therapeutics Limited (ASX: NUZ) is a clinical-stage biotechnology company dedicated to advancing treatments for neurodegenerative diseases. Neurizon is developing its lead drug candidate, NUZ-001, for the treatment of ALS, which is the most common form of motor neurone disease. Neurizon's strategy is to accelerate access to effective ALS treatments for patients while exploring NUZ-001's potential for broader neurodegenerative applications. Through international collaborations and rigorous clinical programs, Neurizon is dedicated to creating new horizons for patients and families impacted by complex neural disorders.

#### **Neurizon Investor Hub**

We encourage you to utilise our Investor Hub for any enquiries regarding this announcement or other aspects concerning Neurizon.

This platform offers an opportunity to submit questions, share comments, and view video summaries of key announcements.

To access Neurizon Investor Hub please scan the QR code or visit <a href="https://investorhub.neurizon.com">https://investorhub.neurizon.com</a>





Shaping the future of neurodegenerative diseases
Neurizon's Mid-Year Update & Outlook

12 December 2024



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# Neurizon Therapeutics' mission is to lead the development of neurodegenerative treatments towards a promising new horizon for patients

## Our success is underpinned by a clear strategic focus on:



Accelerating hope by partnering with the world's leading Neurologists and Mass General's HEALEY ALS Platform Trial



Unlocking the potential of NUZ-001 to treat a range of neurodegenerative diseases



### Investment credentials for NUZ-001



Orally Bioavailable

Ease of delivery



**Crosses blood brain barrier** 

Centrally acting drug



Solid scientific foundation

Reduces TDP-43 accumulation



Long-term safety data

Animal and human safety database accumulating



Positive Phase 1 efficacy data

Animal Efficacy signals



**Strong IP Position** 

Patent protection beyond 2040



Near-term regulatory strategy

Accelerated approval possible across multiple jurisdictions



**Additional indications** 

Pipeline synergies to leverage commercial infrastructure across development programs



**Experienced Management** 

Experienced world-class Board, SAB and management team



High deal flow

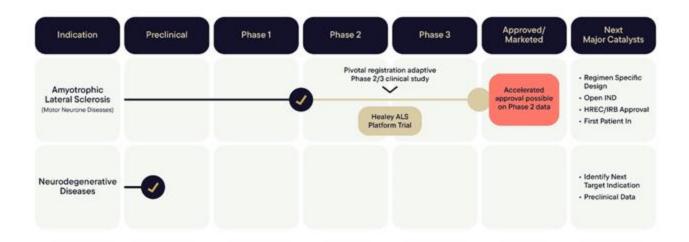
Neurology assets in demand with 4 ALS deals over the last year alone



## Pipeline

Multiple synergistic product opportunities in neurodegenerative disease

- Single pivotal registration clinical study for ALS
- Targeting accelerated approval from Phase 2 data
- Access to HEALEY ALS Platform Trial reduces study cost and time, and increases patient participation rate



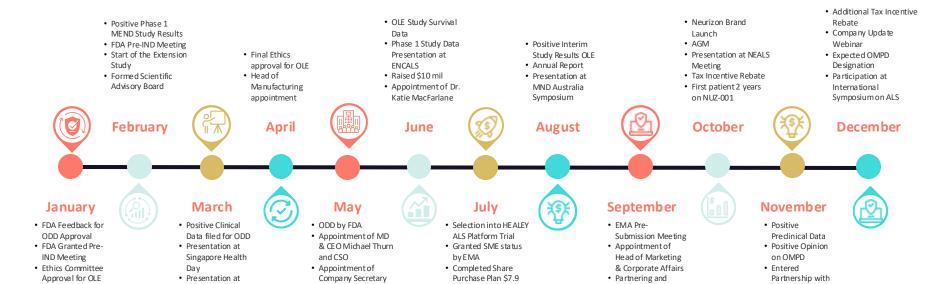


### 2024 - A Year of Milestones at Neurizon

NWR Virtual

Healthcare

conference





· Partnered with Berry

Consultants

· Change of the Office

Chair Sergio Duchini

Location

· Appointment of

Appointment of

Marcus Hughes

Geniells

ALS ONE

· Presentation at

Presentation at

AusRio Invest

Presentation at the

Boston Conference

## Meet Our **Board of Directors**



#### Sergio Duchini Chairman & Non-Executive Director

Sergio serves as a Non-Executive Director and Chair of the Audit Committee at Enlitic Inc. Additionally, he holds the position of Chair at Lymphoma Australia, a leading not-for-profit organization. Sergio previously sation the AusBiotech Board of Directors for nine years. He also served as a Board Director at Deloitte Australia, overseeing the governance, strategy development, and stewardship of the partnership.





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#### Dr Katie MacFarlane

#### Non-Executive Director

Katie has over 30 years of experience in the development and commercialisation of pharmaceutical products and devices. She has held senior executive positions at Arkavli Biophama, Agile Therapeutics, Warner Chilcott, Parke-Davis (now Pfizer). Katie currently serves on the Board of Mayne Pharmaceuticals, an affiliate faculty member of the Purdue University School of Pharmacy and a Founding Member and Advisor to IPhO.



#### Non-Executive Director

Marcus brings more than 20 years' experience with listed companies. He possesses extensive corporate finance experience, having led project fin an cing and capital raisings in the industrial sector. He has held senior managerial, tax and finance roles with multi-national companies including Lend Lease, Fortescue Metals and Rio









**Dr Michael Thurn** 

Managing Director & Chief Executive

Michael has over 25 years experience in technical,

regulatory, commercial and management roles in

listed biotechnology companies. Michael has led a

vaccines for registration during his engagement at

variety of US IND applications across a range of

therapeutic areas and evaluated drugs and

research organisations and industry, including

early stage, fast growing, private and publicly



















### Meet Our

## Management Team





John has over 20 years of pharmaceutical industry experience in phase I – IV clinical trials across numerous therapeutic areas and multiple geographical regions. John has a thorough knowledge of ICH-GCP and regulatory requirements and held clinical operations leadership roles responsible for implementing global clinical programs.



**Dr Nicky Wallis** Chief Scientific Officer

Nicky is a neuroscientist and brings over 12 years of global expertise in clinical development, spanning pre-clinical through to Phase 3 drug and device development. Her extensive experience includes roles such as Clinical Trials Program Specialist at the Australian Clinical Trials Alliance, Vice President of Clinical Operations at Lateral Pharma Biotech, and Clinical Project Manager at Orygen Youth Mental Health Research.



Dr Herbert Brinkman Head of Manufacturing

Herb has over 30 years of experience in the pharmaceutical industry. He has prepared over 25 Chemistry Manufacturing and Control sections and updates for multiple filings for FDA and EU regulatory agencies. Herb has filed and commercially launched 9 products and contributed to filing 21 ANDAs for various semi-solid and parenteral products. He is also an inventor on 14 patents.



Dr Carol Worth **CMC Operations Manager** 

Carol brings over 30 years of industry experience and a passion for focusing on quality control and quality assurance. She recently served as Quality Manager at Epichem Ptv Ltd as Chief Technical Officer at Sud a Pharmaceuticals and Solbec Pharmaceuticals, Carol has also led product development programs at Thermalife International Pty Ltd / Pharmaso k Laboratories Ptv Ltd.



Lidija Damjanovic Head of Marketing and Corporate Affairs

Lidija Damjanovic brings over 15 years of global experience and passion for launching pharmaceutical products and leading comporate communications and affairs in the biotech and pharmaceutical industry. Her extensive leadership experience in driving commercial growth strategies includes marketing and communications roles in companies such as Merck Sharpe and Dohme, Sartorius, Patheon and other global organisations.



Paul Field **Business Development** Advisor

Paul brings over 30 years of business development experience across a range of therapeutic areas, including neurodegenerative diseases, and he maintains a deep network in the global biopharmaceutical industry. His experience includes business development roles at Cerecin. Marin ova, BioCurate and other companies, and he serves on the Boards of NASDAQ-listed 60 Degrees Pharmaceuticals and Wintermute Biomedical



















































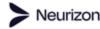












### Meet Our

## Scientific Advisory Board



#### Dr Sabrina Paganoni

Co-Director of the Neurological Clinical Research Institute at the Massachusetts General Hospital, Assistant Professor at Harvard Medical School, and physician investigator at the Sean M. Healey and AMG Center for ALS at Mass General. Dr Paganoni's research focuses on clinical trials and therapy development for ALS. She has served as Principal Investigator of several ALS clinical trials. She is the co-Principal Investigator of the HEALEY ALS Platform Trial, the world's first platform trial for ALS. She has published over 100 peer-reviewed manuscripts and received several awards, including the 2021 Top 10 Clinical Research Achievement Award. She co-chairs the Upper Motor Neuron Task Force, the Technology Committee, and the Recruitment/Retention / Experience Committee at NEALS.



#### Prof Leonard van den Berg

Professor of Neurology who holds a Chair in Experimental Neurology of motor neuron diseases at the University Medical Center Utrecht in the Netherlands. He also is Director of the centre's Laboratory for Neuromuscular Disease, Director of the Netherlands ALS Center, Chairman of the Neuromuscular Centre the Netherlands, and Chairman of the European Network to Cure ALS (ENCALS), a network of the European ALS Centres. Prof. van den Berg did a fellowship in neuroimmunology at the Neurological Institute at Columbia University in New York and obtained his PhD degree at UMC Utrecht. He has been Professor of Experimental Neurology since 2005 and leads a research group focused on translational research into ALS and other diseases of motor neurons.



#### Dr Melanie Quintana

Director and Senior Statistical Scientist at Berry Consultants, where she specialises in designing Bayesian adaptive clinical trials across a wide range of therapeutic areas. Her work has included numerous examples in designing platform trials, including the HEALEYALS Platform Trial and clinical trials in rare and progressive diseases, focusing on developing disease progression models to design better and more powerful clinical trials. Before joining Berry Consultants, Melanie eamed her PhD in Statistics from Duke University and pursued a Postdoc in Biostatistics at The University of Southern California.



#### Dr Christian Freitag

Over 20 years of experience in the pharmaceutical industry with positions in companies including Hoffman La Roche, Shire, and BTG, where he led global clinical development projects. Dr. Freitag has held the position of Chief Medical Officer at Dynacure and Azafaros, where he was responsible for medical and regulatory strategy, including clinical development of their lead compound in rare diseases. Dr Freitag was the Medical Monitor on Neurizon's phase 1 MEND study and oversaw medical and clinical activities.















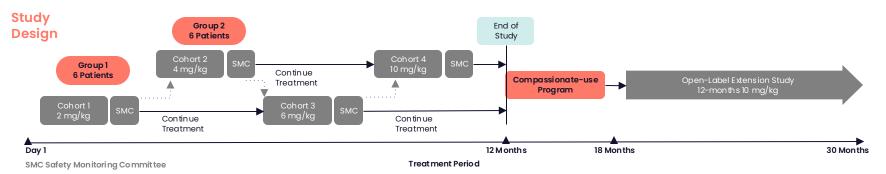




### Phase 1

## **ALS MEND Study**

The Phase 1 MEND Study was an open label, multicentre study involving 12 patients with ALS with the goal of determining the recommended Phase 2/3 dose based on safety and preliminary efficacy





- Positive top-line data released in Q1 CY24
- •12 patients continued treatment with NUZ-001 under a compassionate-use program
- 10 patients have rolled-over into 12-month Open-Label Extension Study. Treatment continues to be very well-tolerated
- Updated ALSFRS-R and Survival Analysis to be generated by Berry Consultants.
- First group of 6 patients are entering their 27th month of continuous treatment with NUZ-001
- Phase I and baseline OLE data used to design pivotal registration adaptive Phase 2/3 Study, to commence in H2 CY24



### Phase 1

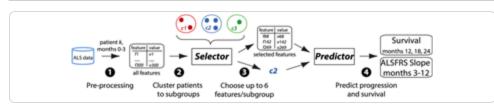
## **ALS Open Label Extension Study**

Compared to matched controls from the PRO-ACT Historical Database, treatment with NUZ-001 results in a significantly (X2=10.35, p=0.00130) longer survival of patients with ALS

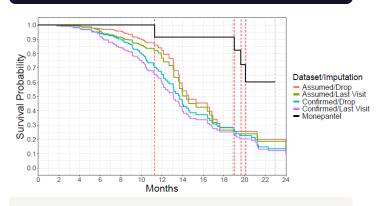
#### **Berry Consultants Statistical Analysis**

- · Berry's analysis involved comparing patients in the PRO-ACT database with similar characteristics to those in Neurizon's Phase 1 MEND Study adjusting for differing diagnosis durations
- $\cdot$  Hazard ratio of 0.237 (95% CI: (0.083,0.674), p = 0.007) indicating that treatment with NUZ-001 reduces the risk of death by 76.3%

Analysis Method		Log-Rank Test		Cox Proportional Hazards Model		
Dataset	Death Time Imputation	$\chi^2$	p-value	Hazard Ratio	95% CI	p-value
Assumed	Leave out	10.35	0.00130	0.237	(0.083, 0.674)	0.007
Survival	Last Visit	11.47	0.00071	0.226	(0.080, 0.638)	0.005
Confirmed	Leave out	14.87	0.00012	0.210	(0.077, 0.576)	0.0024
Survival	Last Visit	16.77	0.00004	0.196	(0.072, 0.537)	0.0015



#### **Overall Survival Probability**



The PRO-ACT database is the largest publicly available repository of merged ALS clinical study data. Data were pooled from 16 completed Phase 2/3 ALS clinical studies and one observational study. Over 8 million de-identified longitudinally collected data points from more than 8,600 persons with ALS, including demographics, family histories, and longitudinal clinical and laboratory data.

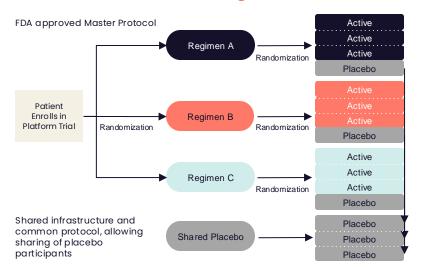


## NUZ-001 selected for entry into the

## **HEALEY ALS Platform Trial**

The HEALEY ALS Platform Trial is a competitive process led by a group of expert ALS scientists and members of the Healey & AMG Center Science Advisory Committee

### **HEALEY ALS Platform Trial Design<sup>1</sup>**



#### **Innovative Trial Structure**

#### Design

- Shared master protocol
- >70 clinical sites across the US
- 3:1 active drug to placebo ratio
- 160-240 participants per regimen
- 5 regimens completed
- · 2 regimens enrolment closed



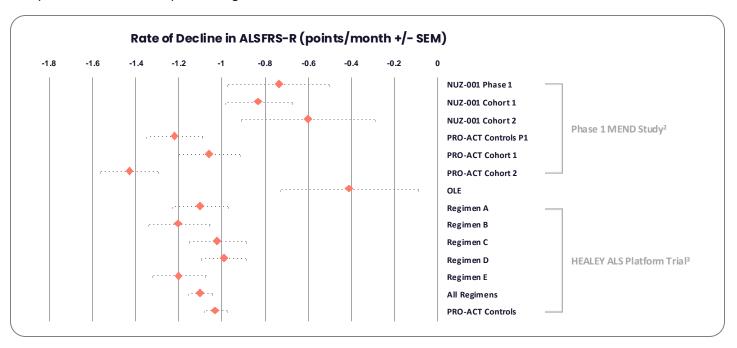
#### Next Steps

- Study design phase to create a regimen-specific protocol amendment completed
- File US IND for NUZ-001 December 2024
- File protocol amendment under MGH's IND January 2025
- Neurizon to supply NUZ-001 February 2025
- · Commence recruitment Q1 CY 2024



## Comparisons of ALSFRS-R Rates of Declines Across Studies

Favourable comparisons to the completed regimens in the HEALEY ALS Platform Trial and PRO-ACT Database<sup>1</sup>



Atassi N, Berry J, Shui A, Zach N, Sherman A, Sinari E, Walker J, Katsovskiy I, Schoenfeld D, Cudkowicz M, Leitner M. The PRO-ACT database: design, initial analyses, and predictive features. Neurology. 2014 Nov 483(19):1719-25. doi: 10.1212WNL.00000000000000051 Epub 2014 Oct 8. PMID: 25298304; PMCID: PMC4239834.



<sup>2.</sup> PharmAust Data on file.

<sup>3.</sup> Melanie Quintarra, Eric Macklin<sup>\*</sup>, Lori Chilank, Joseph Marion, Anna McGotthin, Michelle Detry, Mateo Vestrucci, Giorgio Paul on, Jeremy Shefner, Jinsy Andrews, James D. Berry, Mariame Chase, Hong Yu, Aexander Sherman, Sabrina Paganoni, Merit Cudkowicz, for the HEALEY ALS Platform Trial Study Group. Statistical Innovation and Complexities in the HEALEY ALS Platform Trial: Lessors Learned From the First Set of Regimens. Poster Presentation: ENCALS meeting 2024 Stockholm, Sweden June 17-202024. Mid-Year Update & Outlook December 2024

### **Pre-Clinical Studies**



MoA studies are ongoing, employing gold standard in vitro models of MND



Based on NUZ-001's activity through mTOR inhibition, we are assessing its efficacy in other neurodegenerative diseases with similar underlying pathophysiology



Our current areas of focus include Alzheimer's Disease (AD), Parkinson's Disease (PD), and Huntington's Disease (HD)

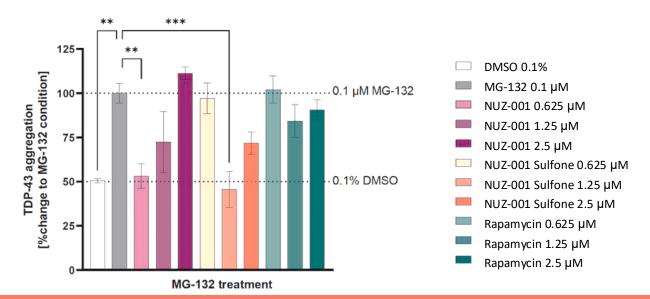


We are employing a suite of *in vitro* models of disease to assess its efficacy



### Pre-Clinical Data

## HTRF TDP-43 Aggregation Assay



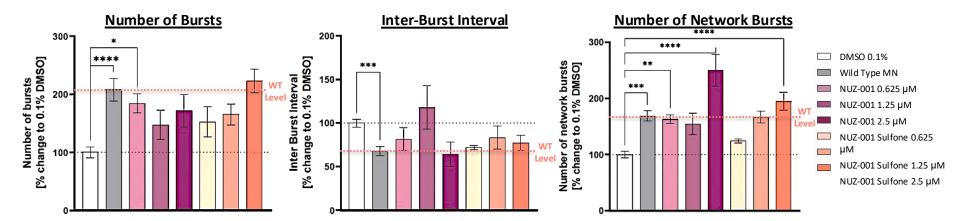
Dose-dependent effect of treatment was observed on TDP-43 aggregate reduction for:

- NUZ-001 at 0.625 μM (statistically significant; ~ 50% reduction) and 1.25 μM (~25% reduction)
- NUZ-001 Sulfone at 1.25 μM (statistically significant; ~ 55% reduction) and 2.5 μM (~ 25% reduction)
- Rapamycin at 3 μM (20% reduction)



### **Pre-Clinical Data**

## Multi-electrode Assay Activity



NUZ-001 and NUZ-001 Sulfone significantly improved the ALS TDP-43 M337V associated phenotype/MEA activity by increasing bursting (NUZ-001 0.625  $\mu$ M p=<0.05), decreasing inter-burst interval, and increasing network burst activity (NUZ-001 0.625  $\mu$ M p=<0.005; NUZ-001 2.5  $\mu$ M p=<0.0005 and NUZ-001 Sulfone 2.5  $\mu$ M p=<0.00005) at day 18 (corresponding to 4 days of treatment with compound).



### Strategic Partnerships

### **Realising Our Potential**





























































































## Chemistry, Manufacturing and Control



#### Manufacturing partners

- API Syngene International
- Drug Product Catalent Pharma Solutions,

Both global leaders in the manufacture and commercial supply of pharmaceutical products.



Syngene is tasked with producing 60 kgs of GMP NUZ-001, which includes an engineering batch of 15 kg and three process validation batches of 15 kg each. These batches are intended to validate the GMP manufacturing process, aid in product registration, and prepare Neurizon for commercial supply.



Catalent Pharma Solutions will handle the GMP production of three registration batches, amounting to over 500,000 tablets. These batches will support product registration and facilitate commercial scale-up activities. The manufactured product will be utilized in the forthcoming adaptive Phase 2/3 trial.



#### **Current Inventory**

- ~100,000 Placebo Tablets
- ~80,000 NUZ-001 Tablets



Catalent.



## **NUZ-001 Liquid Formulation**



- Development of oral liquid formulation of NUZ-001 is in progress
- New formulation development initiated to address administration challenges encountered by subjects that develop swallowing difficulties with late-stage ALS



New formulation planned to be incorporated into an amended Phase 1 Open Label Extension Study or a Standalone PK comparison study in CY25





## **NUZ-001** Regulatory Milestones



- ✓ Pre-IND Meeting
- ✓ Orphan Drug Designation (7 years market exclusivity)
- IND Submission
- Fast Track Designation



- ✓ Pre-Submission Meeting
- ✓ Positive Opinion OMPD
- ✓ Formal OMPD Grant (10 years market exclusivity)
- · Scientific Advice



- ✓ Pre-submission Meeting
- ODD
- Provisional Determination
- Provision Approval



## Strategic Partnerships & Community Engagement

#### **Mass General**



Partnership with the HEALEY ALS Platform Trial enables the efficient evaluation of NUZ-001's safety and efficacy in Phase 2/3, within a patient-centric framework designed to accelerate the path to market for NUZ-001.

#### **Berry Consultants**

Berry Consultants
Statistical Innovation

Catalent.

Partnership in innovative clinical trial design, analysis, execution, and software solutions for the clinical development of rare diseases.

#### Ncardia



Partnership in drug discovery to accelerate development processes through the integration of human iPSC technologies.

#### **GenieUs**



Partnership in leveraging cutting-edge genomic profiling in NUZ-001 Phase 1 Trial.

#### Catalent

Partnership in Fill & Finish services for NUZ-001.

- ~100,000 Placebo Tablets
- ~80,000 NUZ-001 Tablets

#### MND Australia



Working together to advance MND treatments, advocacy, and awareness.

# Connecting Science, Expertise and Patient Communities

To advance NUZ-001 ALS therapy to market and provide access, support, and a horizon of hope for patients with ALS and their families.

#### Fight MND



Finding effective treatments and ultimately a cure for Motor Neurone Disease.

#### I AM ALS

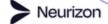


Forming partnership to expand awareness of ALS, support patient communities with resources and advocating for patient access to ALS therapies.

#### Syngene

Syngene

Partnership in manufacturing and securing consistent and sustainable supply of NUZ-001.



### Patent Portfolio



- · 6 patent families
- Portfolio of 62 granted patents with 8 patent applications under examination



Covers key jurisdictions
 (United States, Canada, Europe
 (validated in 11 countries), Australia,
 New Zealand, Japan, Korea, China, and
 Hong Kong)



 Broad protection over the method of use of NUZ-001, and related compounds for mTOR pathway-related diseases



 Covers neurodegenerative diseases specifically Amyotrophic Lateral Sclerosis, Alzheimer's Disease, Parkinson's Disease & Huntington's Disease



- Key patent granted in the US (US 9,790,176) for "Compounds For The Treatment of mTOR Pathway Related Diseases".
- Projected expiry for these patents is August 2033.



- Provisional application filed for new process of manufacture of NUZ-001
- Notice of Allowance issued by USPTO for US 17,924,537
- Projected patent expiry 2041



## Research and Development

### Timeline

Derisked lead program in Amyotrophic Lateral Sclerosis (ALS) with multiple near-term catalysts and potential for use in other neurodegenerative diseases

