



neuren

pharmaceuticals

*Improving the lives of people with  
neurodevelopmental disabilities*

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Neuren Pharmaceuticals Limited

**ANNUAL REPORT 2021**

***Neuren Pharmaceuticals is developing new therapies for debilitating neurodevelopmental disorders that emerge in early childhood and are characterised by impaired connections and signalling between brain cells.***

***Incorporated in New Zealand and based in Melbourne, Australia, Neuren is listed on the ASX under the code NEU.***

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# NEUREN'S VALUE PROPOSITION

## Leading pipeline in neurodevelopmental disorders

Compound	Indication	Preclinical	Phase 1	Phase 2	Phase 3	Commercial Partner
Trofinetide	Rett syndrome <sup>1</sup>					ACADIA <sup>®</sup> (North America)
	Fragile X syndrome <sup>1</sup>					ACADIA <sup>®</sup> (North America)
NNZ-2591	Phelan-McDermid syndrome <sup>2</sup>			<b>Commence H1 2022</b> <b>Results H1 2023</b>		
	Angelman syndrome <sup>2</sup>					
	Pitt Hopkins syndrome <sup>2</sup>					
	Prader-Willi syndrome			<b>Commence H2 2022</b> <b>Results H2 2023</b>		

1 Orphan Drug designation in US and EU, Fast Track designation in US  
 2 Orphan Drug designation in US and EU<sup>3</sup> Orphan Drug designation in US

## Three key drivers of future value

**1**

Realise Neuren's share of trofinetide value in the US through Acadia's New Drug Application for Rett syndrome

**2**

Implement commercial strategy for trofinetide ex-North America, using US data for registration

**3**

Confirm efficacy of NNZ-2591 in Phase 2 trials for 4 valuable indications

## Key milestones in next 18 months

- NNZ-2591 Phase 2 trial results
- Approval of NDA for Rett syndrome (Q1 2023)
- Commercial partnerships ex-North America for Rett syndrome
- Commence Prader-Willi syndrome Phase 2 trial
- Acadia New Drug Application (NDA) for Rett syndrome (mid-2022)
- Commence Phase 2 trials in Angelman, Phelan-McDermid and Pitt Hopkins syndromes

# CHAIR AND CEO MESSAGE

PATRICK DAVIES & JON PILCHER

Dear Shareholders,

2021 was a very successful year for Neuren, culminating in the positive Phase 3 clinical trial results for trofinetide in Rett syndrome, announced in December by our US partner Acadia Pharmaceuticals. Given that the trial was conducted entirely through the pandemic, it was an outstanding achievement by Acadia to complete it within the envisaged timeline. Of course, this was made possible by the remarkable determination and resilience of the Rett syndrome community in the United States. Their unwavering support has been critical throughout this ground-breaking development program.

The robustly positive trial results were a very important value-accretive event for Neuren, as evidenced by the large increase in the share price against the background of a bear market for biotech stocks. However, the results were also the gateway to much larger value creation in the near term across the three elements that Neuren is pursuing. If all goes according to plan for these three elements, we expect to have a range of very attractive strategic options for the Company.

Firstly, the results enable the New Drug Application for trofinetide that Acadia plans to submit to the US Food and Drug Administration (FDA) in mid-2022.

Neuren will earn the first milestone payment from Acadia of US\$10 million when the FDA accepts the application for review, which is typically 60 days after filing. If the application is approved, we expect further payments in 2023 of US\$73 million, as well as double digit percentage royalties on sales and the potential to earn future sales milestone payments of up to US\$350 million.

Secondly, the results enable Neuren to seek partners to commercialise trofinetide outside North America, using the data generated by the US development program.

Thirdly, the trofinetide results further increased our confidence in the prospects of our second drug NNZ-2591, which also targets the role of IGF-1 in the brain and will involve similar clinical trials. It is a very exciting time for Neuren as we commence multiple Phase 2 trials for NNZ-2591 following the great promise seen in all the pre-clinical models. The number of potential patients across the four neurodevelopmental disorders we are currently targeting in parallel is more than five times the number for Rett syndrome. We retain global rights to NNZ-2591, which has the potential to generate larger value for Neuren shareholders than trofinetide.

We are grateful to the existing and new shareholders that gave strong support to the modest capital raising we conducted in September 2021. The raising ensured that our ambitious plans for NNZ-2591 were fully funded, independent of anticipated revenues from trofinetide. This includes accelerating the path to market by laying the foundations that are required for Phase 3 in parallel with executing the Phase 2 trials. Our increasing market capitalisation has now led to broader media and investor interest in Neuren, including brokers that typically follow more mature and larger healthcare companies. In time this should result in a new and larger audience for the Neuren story and we remain very active in engaging with investors and stakeholders to share with them the strong prospects of your company. Neuren was recently added to the ASX All Ordinaries Index and further growth may potentially lead to inclusion in the ASX 300 Index.

We would like to thank the Neuren team and Board, the patient communities and our many industry partners for their effort and skill over the last year. The Neuren team remains highly motivated and determined to improve the lives of patients and families around the world impacted by neurodevelopmental disabilities. We believe that there is a very exciting time ahead for the Company.

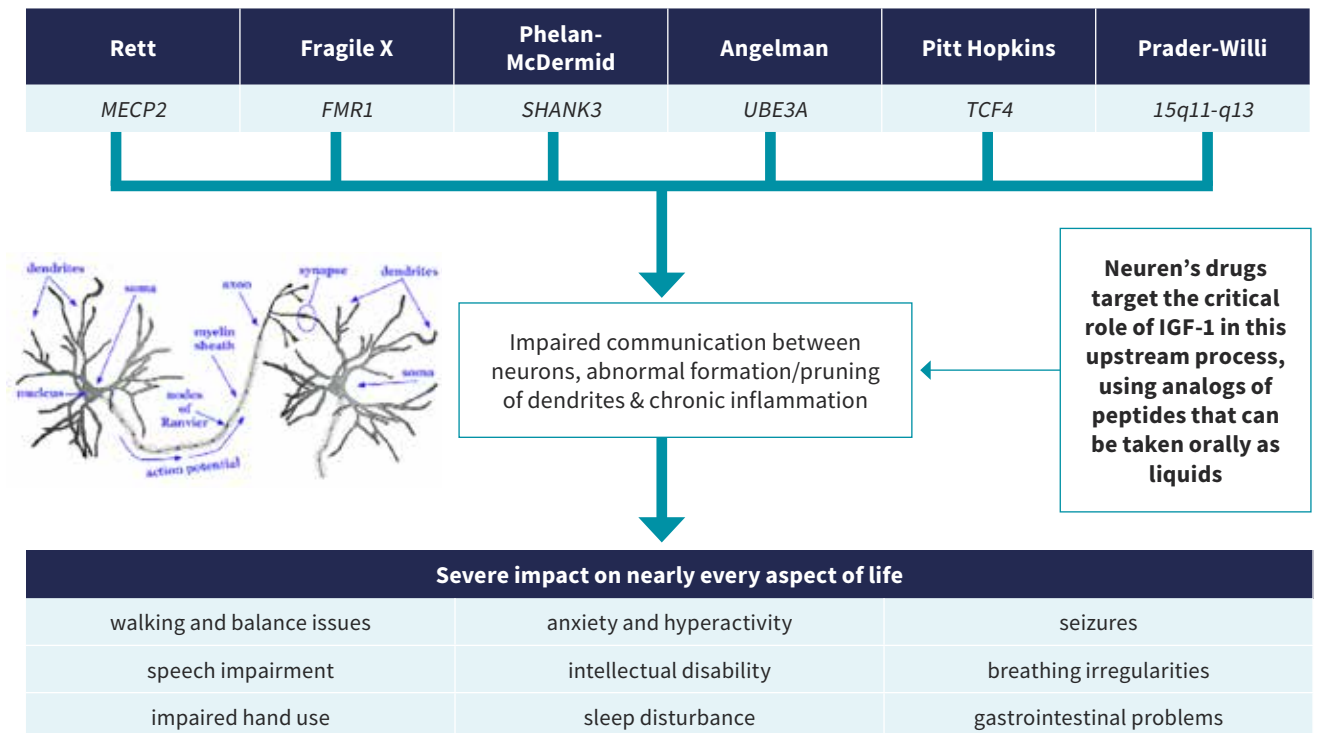


**Patrick Davies**  
Chair

**Jon Pilcher**  
CEO

# OPERATING REVIEW

## Treating neurodevelopmental disorders



### NEUREN'S GROUND-BREAKING THERAPIES

Neuren has two novel patented drugs, trofinetide and NNZ-2591, which potentially have broad utility in the treatment of neurological disorders. Both drugs can be administered orally in a patient-friendly liquid dose. Each drug is in clinical development to treat debilitating neurodevelopmental disorders that emerge in early childhood and for which there are currently no approved drug therapies. The disorders stem from problems in brain development which lead to a wide range of serious issues affecting nearly every aspect of life, creating a severe life-long burden for the patients and their families.

Each neurodevelopmental disorder is caused by a different genetic mutation, but in many cases they share similar symptoms and the common characteristic of impaired connections and signalling between brain cells. Neuren's drugs, which are synthetic analogues of important molecules that occur naturally in the brain, aim to improve the impaired connections and signalling, meaning that the drug's target is to have a broad impact on the disorder rather than aiming to treat one symptom.

A critical feature of Neuren's work to develop therapies for each of these disorders is close collaboration with the leading specialist physicians and with the well-organised patient advocacy organisations.

### THE IMPORTANCE OF ORPHAN DRUG DESIGNATION

Neuren has received Orphan Drug designation from the US Food and Drug Administration (FDA) for trofinetide to treat Rett syndrome and Fragile X syndrome and for NNZ-2591 to treat Phelan-McDermid syndrome, Angelman syndrome, Pitt Hopkins syndrome and Prader-Willi syndrome. The European Medicines Agency (EMA) has also granted Orphan designation to all except Prader-Willi syndrome, for which an application will be submitted in due course.

*Orphan Drug* designation is a special status that the regulators may grant to a drug to treat a rare disease or condition. Amongst other incentives, Orphan Drug designation qualifies the sponsor of the drug for exclusivity periods during which the regulators will not approve a generic competitor product. These marketing exclusivity periods are extremely valuable for the commercialisation of Orphan Drugs. They provide additional protection, along with patents, against generic competitors and potentially can continue to provide protection after patent expiry. The exclusivity periods after marketing authorisation of products approved for pediatric use are 7.5 years in the US and 12 years in the EU. Japan, South Korea and Taiwan also have Orphan Drug programs.

# OPERATING REVIEW

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As well as the exclusivity periods, Orphan Drugs have many other commercial advantages compared with existing markets that have apparently attractive large sales in which established products and companies have to be displaced. The serious and urgent unmet need results in a more supportive regulatory and pricing environment and strong engagement from the patient community and leading physicians. Historical data indicates a higher probability of achieving regulatory approval and the potential for immediate access to known patients means that a large sales organisation is less important.

In short, the Orphan Drug business model targets a leadership position in markets with urgent need, at an attractive price and with a higher probability of getting to market.

The neurodevelopmental disorders that Neuren is aiming to treat are “rare diseases”, however they are not “ultra-rare”, and in each disorder there are tens of thousands of potential patients. Combined with Neuren’s strategy to develop treatments for multiple disorders in parallel, this results in a substantial commercial opportunity.

## COMMERCIAL EXCLUSIVITY

In addition to the primary protection of the important exclusivity periods from Orphan Drug designation explained above, Neuren has additional commercial protection from issued patents, which extend as far as 2032 for trofinetide and 2034 for NNZ-2591. Further international patent applications have been filed for both drugs which, if granted, will extend to 2040. Since trofinetide and NNZ-2591 are new chemical entities, following the first marketing authorisation for each drug, the term of one patent may potentially be extended by up to 5 years in many countries, including the United States, Europe and Japan.

## TROFINETIDE FOR RETT SYNDROME

### Successful Phase 3 clinical trial and pending NDA

In December 2021, Neuren’s partner for trofinetide in North America, Acadia Pharmaceuticals (Nasdaq: ACAD), announced positive top-line results from the pivotal, Phase 3 Lavender™ clinical trial evaluating the efficacy and safety of trofinetide in 187 girls and young women aged 5-20 years with Rett syndrome. The 12-week placebo-controlled study demonstrated a statistically significant improvement over placebo for both co-primary endpoints. On the Rett Syndrome Behaviour Questionnaire (RSBQ), change from baseline to week 12 was -5.1 vs. -1.7 (p=0.0175; effect size=0.37). The Clinical Global Impression-Improvement (CGI-I) score at week 12 was 3.5 vs. 3.8 (p=0.0030; effect size=0.47). The RSBQ is a caregiver assessment of the core symptoms of Rett syndrome and the CGI-I is a global physician assessment of worsening or improving of Rett syndrome. Additionally, trofinetide demonstrated a statistically significant separation over placebo on the key secondary endpoint, the Communication and Symbolic Behavior Scales Developmental Profile™ Infant-Toddler Checklist-Social composite score (CSBS-DP-IT-Social) change from baseline to week 12 was -0.1 vs. -1.1 (p=0.0064; effect size=0.43).

### Lavender™ positive top-line results

Disorder	Placebo	Trofinetide
<b>Primary Endpoints:</b>		
<b>Rett Syndrome Behaviour Questionnaire (RSBQ)</b> (Change from baseline to week 12)	-1.7 (0.98)	-5.1 (1.38)
<i>p-value</i>		<b><i>p=0.0175</i></b>
Effect Size: Cohen’s d		<b>0.37</b>
<b>Clinical Global Impression of Improvement (CGI-I)</b> (Score at week 12)	3.8 (0.06)	3.5 (0.08)
<i>p-value</i>		<b><i>p=0.0030</i></b>
Effect Size: Cohen’s d		<b>0.47</b>
<b>Key Secondary Endpoint:</b>		
<b>CSBS-DP-IT Social Composite Score</b> (Change from baseline to week 12)	-1.1 (0.28)	-0.1 (0.28)
<i>p-value</i>		<b><i>p=0.0064</i></b>
Effect Size: Cohen’s d		<b>0.43</b>

Source: Acadia Lavender Study Top-Line Results Presentation <https://ir.acadia-pharm.com/static-files/84457c64-60ab-4b2f-a166-edc1d465f4a8>

# OPERATING REVIEW

CONTINUED

The trofinetide program has Orphan Drug, Fast Track and Rare Pediatric Disease designations from the FDA. Acadia plans to submit a New Drug Application (NDA) to the FDA around mid-year 2022. A NDA with Orphan Drug Designation is eligible for Priority Review in 6 months, compared with the standard review period of 10 months, which means potential for marketing approval in the first quarter of 2023. The NDA will be based on pivotal efficacy from the positive Phase 3 trial, supportive efficacy from Neuren's positive Phase 2 trial and safety data from completed and ongoing studies, which include the Lilac™ open label extension trial and the Daffodil™ trial evaluating safety and pharmacokinetics in children aged 2 to 5 years. Acadia has already conducted pre-NDA meetings with the FDA to discuss the clinical data package and the chemistry, manufacturing and controls package for the NDA.

## Neuren's attractive economics from the Acadia partnership

Under the terms of the licence agreement with Acadia, the development and commercialisation of trofinetide in North America is fully funded by Acadia and Neuren may receive potential milestone payments of up to US\$455 million, plus double-digit percentage royalties on net sales of trofinetide in North America, plus one third of the market value of a Rare Pediatric Disease Priority Review Voucher if awarded by the FDA upon approval of a NDA for trofinetide. These vouchers are tradeable and published sales since 2019 have fetched between US\$95 million and US\$110 million.

Neuren expects to receive revenue over 2022 and 2023 for Rett syndrome in the US alone of A\$115 million plus double-digit percentage royalties on net sales. The expected revenue in addition to the royalties comprises:

- A milestone payment in 2022 of US\$10 million (A\$14 million at assumed exchange rate of 0.72) following acceptance of the NDA for review by the FDA;
- A milestone payment in 2023 of US\$40 million (A\$55 million), following the first commercial sale of trofinetide in the United States; and
- US\$33 million (A\$46 million) in 2023 as Neuren's one third share of the market value of a Priority Review Voucher, estimated as US\$100 million.

Neuren's additional ongoing revenue from sales has two components:

- Double digit percentage royalties on sales of trofinetide in all indications. The annual sales are recorded in tiers and an escalating percentage is applied to each successive tier. The potential peak annual net sales for trofinetide in Rett syndrome has been estimated by Acadia as at least US\$500 million.
- Payments of up to US\$350 million (approximately A\$486 million) on achievement of a series of 4 thresholds of total annual sales for all indications.

No royalties or similar costs are payable by Neuren to third parties, which means that Neuren's revenue from Acadia will flow through to pre-tax profit.

A redacted version of the licence agreement between Neuren and Acadia was filed with the US Securities and Exchange Commission as a material contract exhibit to Acadia's 2018 10-K Annual Report, which is available to view via the SEC Filings section of Acadia's website.

## Development and commercialisation outside North America

Acadia has exclusive rights to trofinetide in all indications for the United States, Canada and Mexico. Neuren retained all rights to trofinetide for countries outside North America and has a fully paid-up, irrevocable licence for use in those countries to all data generated by Acadia.

There is urgent unmet need for a treatment for Rett syndrome around the world, evidenced by communications received from families, patient support groups and physicians. The estimated number of potential patients and currently identified patients are shown in the table below. Neuren expects rates of diagnosis to increase with greater awareness and accelerate with the availability of a treatment.

### Rett Syndrome opportunity

Estimates	US	Europe	Japan	China urban	Other Asia
Potential patients <sup>1</sup>	10,000	13,000	3,000	28,000	6,000
Patients currently identified	5,000	4,000	1,000	2,000	'00s

1 Potential patient estimates derived by applying the mid-point of the published prevalence estimate range to the populations under 60 years

# OPERATING REVIEW

CONTINUED

Neuren has received strong interest for potential commercial partnerships and the number of interested parties has increased significantly since the Phase 3 results were announced. Discussions are now in progress under a process to secure the optimum outcome for shareholders and for patients.



## About Rett syndrome

Rett syndrome is a seriously debilitating and life-threatening neurological disorder, for which there are no approved medicines. It is first recognized in infancy and seen predominantly in girls, but can occur very rarely in boys. At diagnosis, Rett syndrome has often been misdiagnosed as autism, cerebral palsy, or non-specific developmental delay. Most cases of Rett syndrome are caused by mutations on the X chromosome on a gene called *MECP2*. Rett syndrome strikes all racial and ethnic groups and has been estimated to occur worldwide in 1 of every 10,000 to 15,000 female births, causing problems in brain function that are responsible for cognitive, sensory, emotional, motor and autonomic function. These problems can include learning, speech, sensory sensations, mood, movement, breathing, cardiac function, and even chewing, swallowing, and digestion. Rett syndrome symptoms appear after an early period of apparently normal or near normal development until six to eighteen months of life, when there is a slowing down or stagnation of skills. A period of regression then follows, with loss of communication skills and purposeful hand use, loss or impairment of walking, and the onset of stereotypic hand movements. Other problems frequently include seizures and erratic breathing patterns, an abnormal side-to-side curvature of the spine (scoliosis), and sleep disturbances.

## NNZ-2591 FOR MULTIPLE NEURODEVELOPMENTAL DISORDERS

Neuren recently received approval from the FDA for Investigational New Drug (IND) applications to commence Phase 2 clinical trials of NNZ-2591 for each of Phelan-McDermid syndrome (PMS), Angelman syndrome (AS) and Pitt Hopkins syndrome (PTHS). There are currently no approved therapies for these debilitating neurodevelopmental disorders. A fourth disorder, Prader-Willi syndrome, was also added to the development pipeline in 2021 following excellent results in a model of the disorder and the grant of Orphan Drug designation by the FDA.

The estimated number of potential patients being targeted across these four disorders is more than five times larger than Rett syndrome. Neuren retains all global rights to NNZ-2591.

### Five times larger opportunity for NNZ-2591

Disorder	Gene mutation	Published prevalence estimates	Potential patients US <sup>1</sup>	Potential patients Europe <sup>1</sup>	Potential patients Other <sup>1,2</sup>
Phelan-McDermid	<i>SHANK3</i>	1/8,000 to 1/15,000 males and females	22,000	28,000	81,000
Angelman	<i>UBE3A</i>	1/12,000 to 1/24,000 males and females	14,000	18,000	52,000
Pitt Hopkins	<i>TCF4</i>	1/34,000 to 1/41,000 males and females	7,000	9,000	25,000
Prader-Willi	<i>15q11-q13</i>	1/10,000 to 1/30,000 males and females	13,000	16,000	47,000
			<b>56,000</b>	<b>71,000</b>	<b>205,000</b>

1 Estimates derived by applying the mid-point of the prevalence estimate range to the populations under 60 years

2 Other comprises Japan, Korea, Taiwan, Israel, Brazil and urban population of China



# OPERATING REVIEW

CONTINUED

## **Phase 2 trials in AS, PMS and PTHS – results expected in H1 2023**

Following review of the originally submitted trial protocols, FDA requested enhancements to the safety monitoring in these first trials of NNZ-2591 in pediatric patients. This required amendments to the protocols and re-submission of the applications, which deferred the approvals of the IND applications by 5 months. This in turn moved the expected timing of top-line results from H2 2022 to H1 2023.

The overall aim of these first trials is to expedite the generation of data that will enable the subsequent trials to be designed as registration trials. Prioritising fast enrolment of subjects, the AS trial is being conducted in Australia, whilst the PMS and PTHS trials are being conducted in the US. Up to 20 pediatric patients will be enrolled in each trial. All patients will receive drug following a well-characterised baseline period, which will enable the change from baseline to be extensively analysed.

The primary aim is to confirm the safety and pharmacokinetics of NNZ-2591 in pediatric patients. However, each trial will also assess the treatment impact across multiple efficacy measures to generate data to select the best primary efficacy endpoint or endpoints for the registration trials. The trials maximise the opportunity to demonstrate effects by focusing on pediatric patients and treating them for 13 weeks.

## **Preparation for Phase 3**

In order to expedite the overall development plan, in parallel with conducting the Phase 2 trials Neuren is executing the additional development work required to be ready for Phase 3 development. This includes non-clinical toxicity studies to support longer clinical trials and commercial use of the product, as well as optimisation of the drug product and drug substance manufacturing arrangements.

## **Strong foundations for Phase 2 trials**

In designing and executing the NNZ-2591 development program, Neuren has been able to leverage the extensive and highly relevant experience the management team has gained from the trofinetide Rett syndrome program across manufacturing, non-clinical, clinical and regulatory. Neuren has meticulously built strong foundations in each of these areas to enable Phase 2 trials in multiple indications.

## **✓ Clear and consistent efficacy in mouse models of all four disorders**

The studies in these models compared normal mice (“wild type”) and mice with a disrupted gene (“knockout”). The knockout mice exhibit behavioural and biochemical deficits that mimic each disorder in humans. The wild type mice and the knockout mice were each treated with placebo and NNZ-2591. In all four models, treatment with NNZ-2591 for 6 weeks eliminated all the deficits so that the knockout mice were indistinguishable from the wild type mice. Treatment had no impact on the wild type mice which is important from a safety point of view.

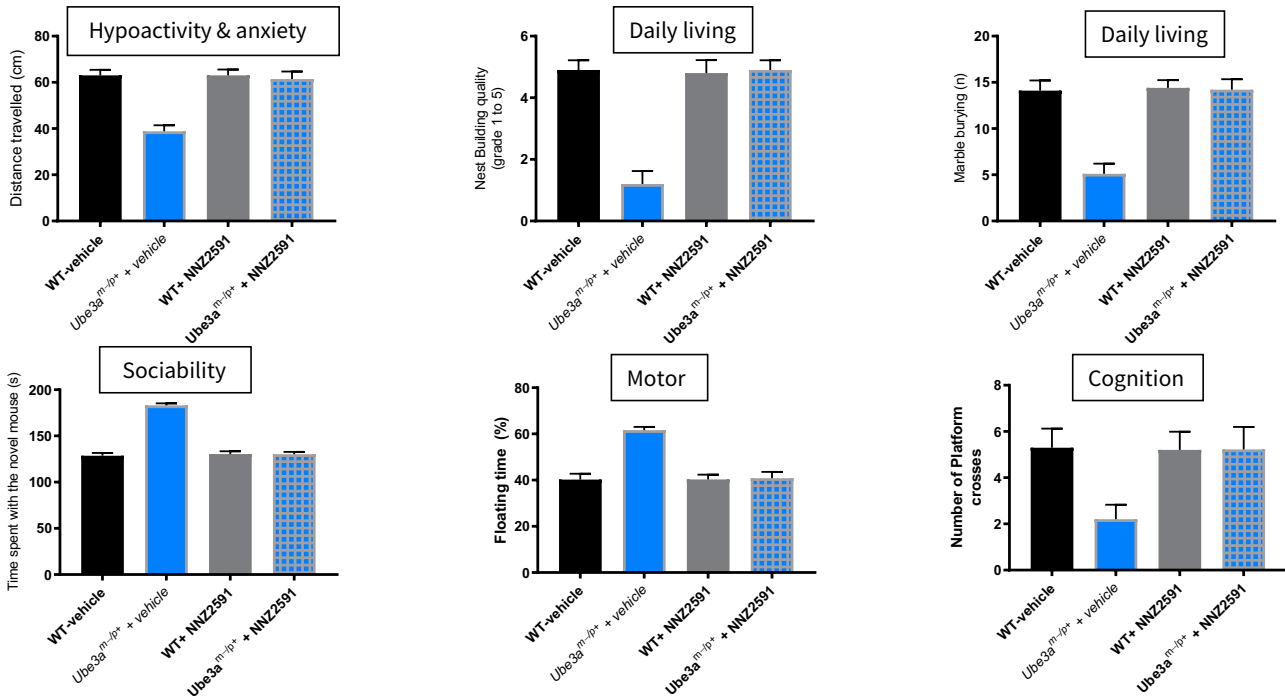
Following review of the data from the mouse models and the mechanistic rationale for treatment, FDA granted Orphan Drug designation for NNZ-2591 in each of the four disorders.

# OPERATING REVIEW

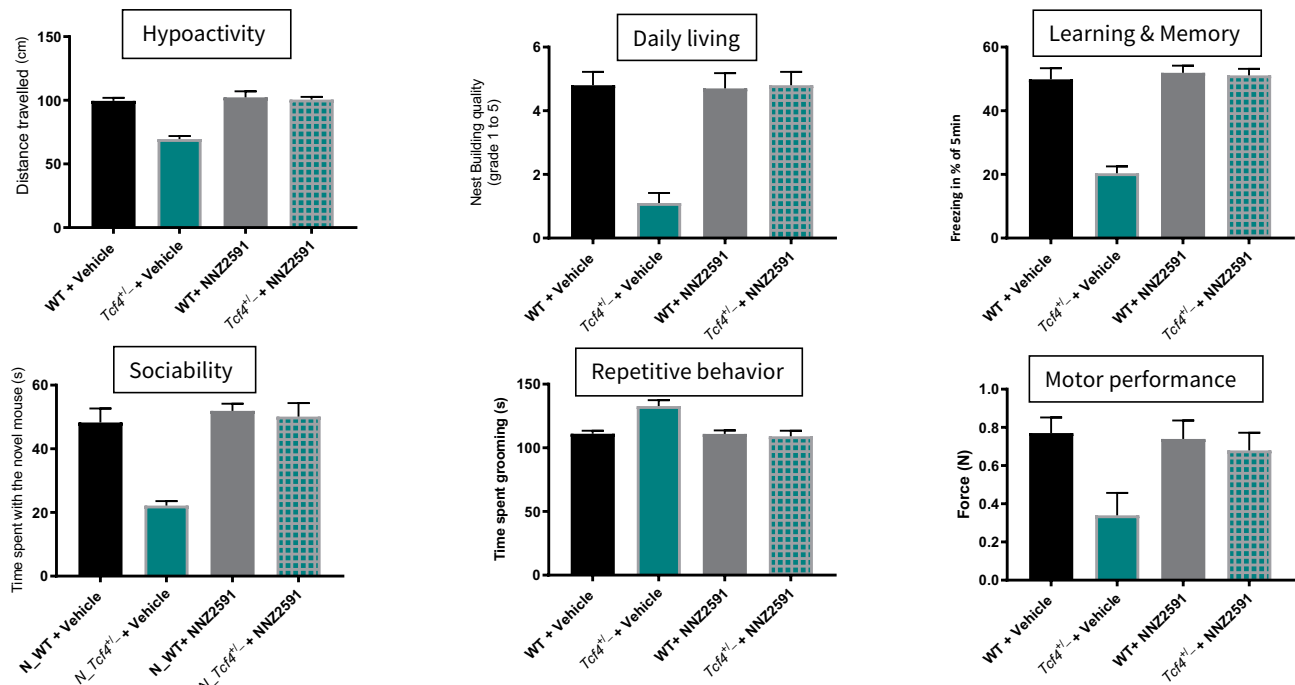
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The charts below show the results in the Angelman syndrome, Pitt Hopkins and Prader-Willi syndrome models. In the Angelman model, treatment also eliminated seizures in the knockout mice.

## Efficacy in mouse model of Angelman (*Ube3a*)



## Efficacy in mouse model of Pitt Hopkins (*Tcf4*)



# OPERATING REVIEW

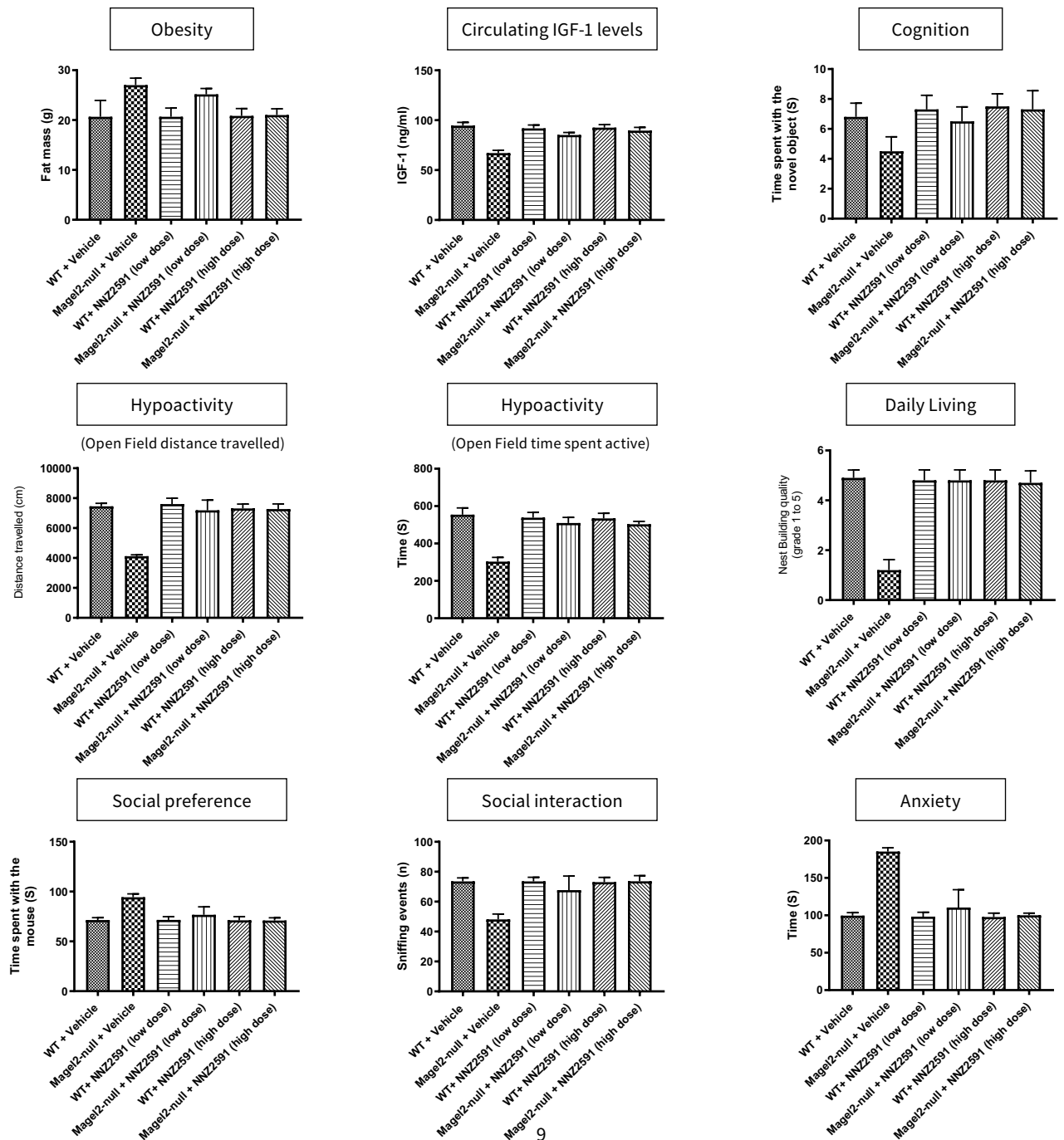
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## Efficacy in mouse model of Prader-Willi (*Magel2*-null)

Prader-Willi is caused by mutations in the *15q11-q13* region of chromosome 15. In the *Magel2*-null mouse model, which exhibits features of Prader-Willi in humans, wild type mice and knockout mice were treated with placebo (vehicle) or NNZ-2591 for 6 weeks. Treatment with NNZ-2591 normalized fat mass (obesity) insulin levels, IGF-1 levels and all the behavioral deficits in the knockout mice and had no effect on the wild type mice.

Insulin levels (pM)

WT plus vehicle	<i>Magel2</i> -null plus vehicle	WT plus NNZ-2591 low dose	<i>Magel2</i> -null plus NNZ-2591 low dose	WT plus NNZ-2591 high dose	<i>Magel2</i> -null plus NNZ-2591 high dose
110	173	112	143	115	119



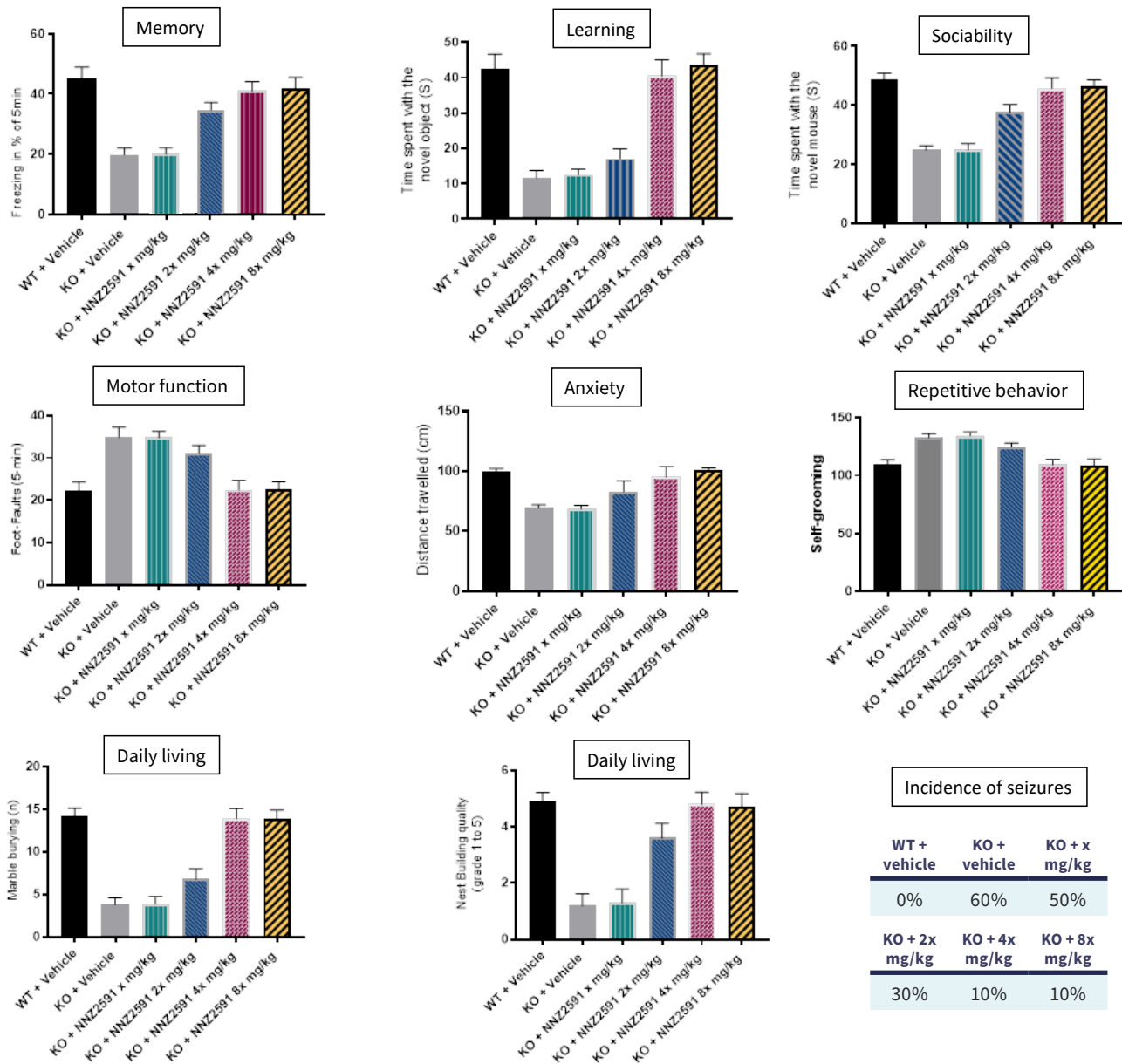
# OPERATING REVIEW

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## Optimum dose identified

In the Phelan-McDermid syndrome model, the effect of four escalating dose levels was investigated. The results of this dose ranging study are shown in the charts below. They were consistent across all 8 behavioral tests and the incidence of seizures, demonstrating that the second highest dose was the optimum dose level in the mouse model. Comparison with human pharmacokinetic data from the Phase 1 clinical trial has informed the equivalent human dose for the Phase 2 trials in patients.

A further observation was that the optimum dose in this 6-week study showed better efficacy than the same dose in an earlier study for 3 weeks, indicating that efficacy increases with treatment duration. In the Phase 2 trials Neuren is testing treatment with NNZ-2591 for 13 weeks.

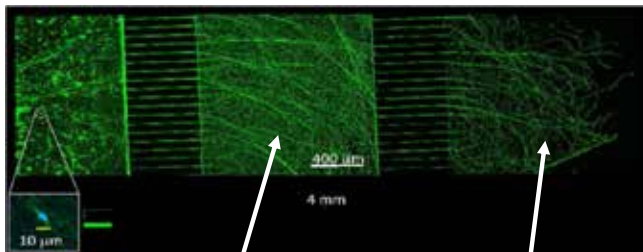
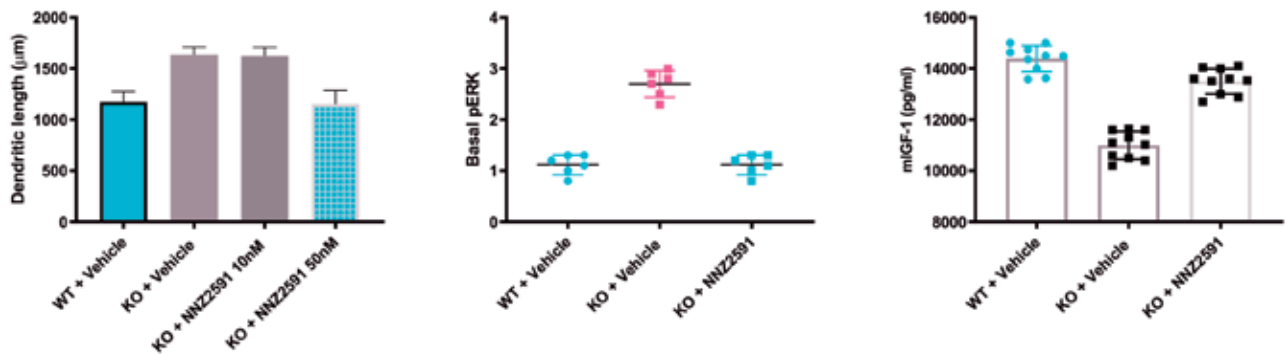


# OPERATING REVIEW

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## ✓ Effects on biochemistry and brain cell structure confirmed

Biochemical testing in the Phelan-McDermid model showed that the abnormal length of dendritic spines between brain cells, the excess activated ERK protein (pERK) and the depressed level of IGF-1 in the knockout mice were all normalised after treatment with NNZ-2591, as shown in the charts below.



Abnormal dendrites in shank3 knockout mice

Normalisation after treatment with NNZ-2591

## ✓ Blood-brain barrier penetration confirmed

As well as very high oral bioavailability, good penetration of the blood-brain barrier by NNZ-2591 has been demonstrated in a rodent study. A single dose was administered at 2 dose levels, with the high dose twice the low dose. The concentration of NNZ-2591 in the blood and cerebrospinal fluid was determined after 1.5 hours and again after 4 hours. The amount in the brain tissue was also measured after 4 hours. In each case the concentration was approximately proportional to the dose and after 4 hours the concentration in blood and brain tissue was approximately equivalent.

## ✓ Large scale manufacturing process developed

Neuren has successfully developed a proprietary process for manufacturing drug substance at large scale with exceptional purity and high yield. Manufacturing has been completed to supply all four Phase 2 trials.

## ✓ Positive Phase 1 clinical trial results

In 2021, Neuren completed a Phase 1 clinical in Australia, in which twice daily oral dosing of NNZ-2591 for seven days was safe and well tolerated in healthy volunteers at doses expected to be within the effective therapeutic range. This was an important milestone for NNZ-2591 to be able to move forward to Phase 2 clinical trials in patients.

The primary objective was to evaluate safety and tolerability, with a secondary objective to evaluate pharmacokinetic parameters. Two double-blind placebo-controlled cohorts of eight healthy adult volunteers were dosed orally twice per day for seven days. Each cohort was titrated up to the target dose, with the target dose in the second cohort double the target dose in the first cohort. These two cohorts were preceded by preliminary testing of single doses of NNZ-2591, which enabled modelling of potential multiple dosing regimens.

# OPERATING REVIEW

CONTINUED

No Serious Adverse Events (SAEs) were reported. All reported Adverse Events (AEs) were mild or moderate and resolved during the trial. There were no clinically significant findings from safety laboratory tests, vital signs, or cardiac tests. In the cohorts dosed for seven days, the most common AE reported was drowsiness. In the higher dose cohort, only one of the reported AEs was moderate, the remainder were mild. All subjects completed the scheduled dosing, apart from one of the eight subjects in the lower dose cohort, who ceased dosing after receiving the first starting dose following moderate drowsiness and incoordination.

## ✓ IND-enabling program of non-clinical toxicology and CMC studies completed

An extensive program of non-clinical toxicology and manufacturing studies required to open an IND in the United States and enable clinical trials for 13 weeks in pediatric patients has been completed.

To find out more about these disorders:



[www.pmsf.org](http://www.pmsf.org)



[www.pitthopkins.org](http://www.pitthopkins.org)



[www.angelman.org](http://www.angelman.org)



[www.fpwr.org](http://www.fpwr.org)

## THE SCIENCE BEHIND NEUREN'S PRODUCTS

Trofinetide (also known as NNZ-2566) and NNZ-2591 are synthetic analogues of glypromate (“GPE”) and cyclic glycine-proline (“cGP”) respectively, each of which occurs naturally in the brain and is involved in the metabolism of IGF-1, which is a growth factor stimulated by growth hormone. In the central nervous system, IGF-1 is produced by both of the major types of brain cells – neurons and glia. IGF-1 in the brain is critical both for normal development and to maintain or restore the biological balance required for normal functioning. During development, the brain and the cells that comprise it change rapidly and in complex ways. IGF-1 and its metabolites play a significant role in regulating these changes. In the mature brain, these molecules play an important role in responding to disease, stress and injury.

Trofinetide and NNZ-2591 mimic the function of the natural molecules in the brain, however each drug is designed to have a longer half-life in circulation, be suitable for use as an oral medication, more readily cross the blood brain barrier and have better stability for longer and easier storage and shipping.

Whereas many drugs typically exert a specific effect on a specific target related to one symptom, trofinetide and NNZ-2591 exert diverse effects which can help to control or normalise abnormal biological processes in the brain.

Many neurological conditions share four common, underlying pathological features:

### 1. Inflammation

Inflammation in the brain (neuroinflammation) is perhaps the most common pathological feature of neurological disorders. Much of it is the result of excess production of molecules called inflammatory cytokines. These are prominent in brain injuries, neurodevelopmental disorders such as Rett syndrome, neurodegenerative diseases like Alzheimer's and even so-called “normal” aging.

Neuroinflammation places significant stress on brain cells. Stress can disrupt normal cellular processes such as information signalling, increase energy requirements beyond the ability of the cells to meet their metabolic needs, and disturb electrical functions which can lead to seizures and other abnormalities and even result in premature cell death.

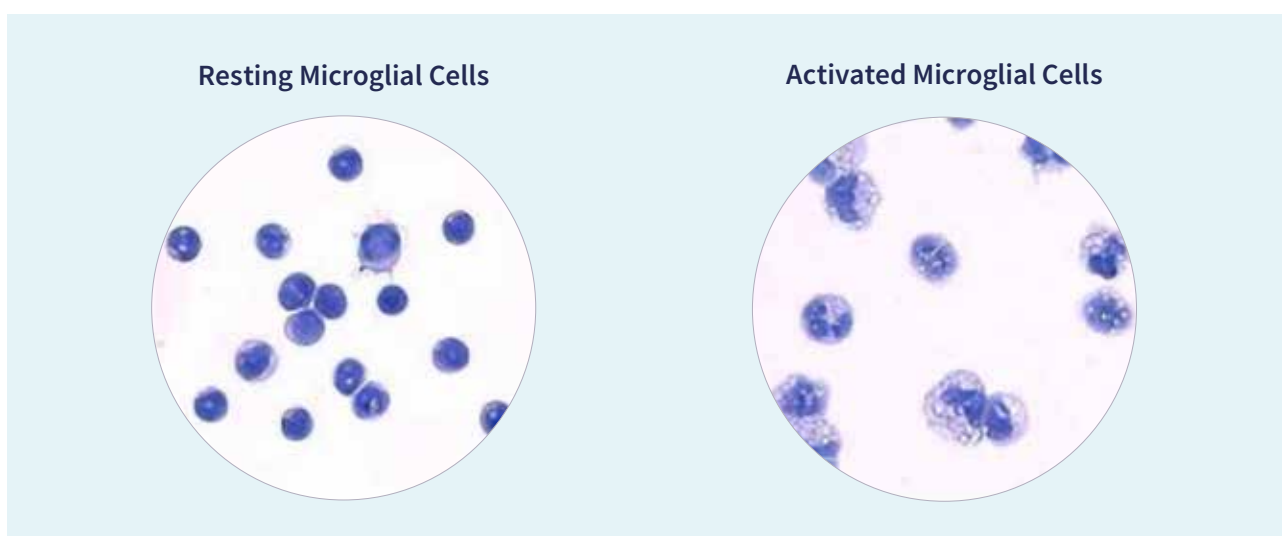
# OPERATING REVIEW

CONTINUED

## 2. Over-activation of microglia

Microglia are the resident immune cells in the brain. Once thought to serve primarily a sentinel function – responding to infection and damaged cells by surrounding and removing them – it is now known that they play a central role in maintaining synapses during development and in mature brains by pruning dendrites, the many small extensions of neurons that form synapses. Microglia are also a key source of IGF-1. Due to this wide-ranging maintenance function, they have appropriately been referred to as the “constant gardeners” of the brain.

Microglia are not only activated in response to infection and injury, they also are activated by inflammation. In this activated state, they not only lose their ability to effectively perform their normal function in synaptic maintenance but also produce more inflammatory cytokines which can further compound the damage to neurons and other brain cells.



## 3. Dysfunction of synapses

Neurons communicate with each other by chemical and electrical signals transmitted via synapses. Normal synaptic function is essential for healthy brain function and underlies memory, cognition, behaviour and other brain activities. Normal synaptic function requires that the dendrites (the branches on the neurons) which form synapses are appropriately formed as well as that excitatory and inhibitory signals are kept in balance.

When dendritic structure and synaptic signalling are abnormal, virtually all brain activities can be negatively impacted. Synaptic dysfunction has been identified as a core feature of many conditions including acute brain injury, neurodevelopmental disorders and neurodegenerative diseases.

## 4. Reduced levels of IGF-1

IGF-1 levels in the brain have been reported to be depressed in a number of conditions, which means that the critical role of IGF-1 in maintaining and repairing brain cells and synapses is impaired.

The aim of treatment with Neuren’s drugs is to restore the natural balance of brain function by:

- reducing inflammation
- restoring the normal functioning of microglia
- improving the dendritic structure of synapses
- normalising the levels of IGF-1 in the brain

# OPERATING REVIEW

CONTINUED

## FINANCE

	2021 \$'m	2020 \$'m
R&D Tax Incentive	3.2	0.7
Interest income	–	0.1
Other income (Government cash-flow boost)	–	0.1
Foreign exchange gain	0.4	–
<b>Total income</b>	<b>3.6</b>	<b>0.9</b>
Research & Development	(9.5)	(7.8)
Corporate & Administration	(1.9)	(1.7)
Foreign exchange loss	–	(0.6)
<b>(Loss)/Profit after tax</b>	<b>(7.8)</b>	<b>(9.2)</b>
Cash flow from operations	(10.0)	(8.1)
Cash flow from financing	22.2	19.1
Effect of exchange rates on cash balances	0.4	(0.7)
<b>Cash at 31 December</b>	<b>36.8</b>	<b>24.2</b>

The loss after tax for 2021 was \$7.8 million compared with \$9.2 million in 2020. This is mainly due to R&D Tax Incentive income of \$3.2 million (2020: \$0.7 million) following AusIndustry's approval of an Advance and Overseas finding for the development of NNZ-2591 as a novel therapy for neurodevelopmental disorders. Research and development costs were \$1.7 million higher, due to an increase in expenditures in 2021 for the NNZ-2591 non-clinical studies, Phase 1 trial, Phase 2 trials and manufacture of the required drug for the Phase 2 trials. In addition, foreign exchange gains were \$0.4 million compared with foreign exchange losses of \$0.6 million in 2020. This is due to an increase in the carrying value in AUD of USD cash held to eliminate exchange risk for USD expenditure, as a result of the strengthening of the USD against the AUD.

Cash reserves at 31 December 2021 were \$36.8 million (2020: \$24.2 million). Net cash used in operating activities was \$10.0 million (2020: \$8.1 million). The increase of \$1.9 million was mainly in payments to other suppliers, due to higher research and development expenditure of \$3.5 million, which was partially offset by the receipt of \$2.5 million under the R&D Tax Incentive program (2020: \$0.5 million). Financing provided cash of \$22.2 million, received for the issue of new ordinary shares in the capital raise and share purchase plan, compared with \$19.1 million in 2020.



# BOARD



**PATRICK DAVIES**  
Non-Executive Chair

B EC, MBA

Patrick joined the Neuren Board in July 2018. He has held executive management roles in the Australian and New Zealand healthcare industry for over twenty five years having performed successfully in senior roles across many industry sectors including pharmacy, primary care, pharmaceutical and consumer products. During his ten year period as Chief Executive Officer of EBOS Group Limited (and previously Symbion), the enterprise value of the group achieved compound annual growth in enterprise value of +20% (from circa \$450M to in excess of \$3.1B). He is a director on other corporate boards and provides strategic advice to a range of healthcare businesses and investors.



**JON PILCHER**  
Chief Executive Officer/Managing Director

BSc (Hons), FCA

Jon joined Neuren in August 2013 as CFO and was appointed CEO in May 2020. He has played a central role in all aspects of Neuren's R&D, commercial and corporate activities. Before joining Neuren he was a member of the leadership team at Acrux (ASX: ACR) throughout a period that included Acrux's IPO and listing on the ASX, the development and FDA approval of three novel pharmaceutical products and a transforming licensing deal with Eli Lilly in 2010. He formerly spent seven years in a series of executive positions in the R&D and corporate functions of international pharmaceutical groups Medeva and Celltech, which are now part of UCB. Jon is a Chartered Accountant and holds a degree in Biotechnology from the University of Reading in the UK. He is a non-executive director of BTC Health Limited (ASX: BTC).



**DR TREVOR SCOTT**  
Non-Executive Director

MNZM, LLD (Hon), BCom, FCA, FNZIM, DF Inst D

Trevor joined the Neuren Board in March 2002. He is the founder of T.D. Scott and Co., an accountancy and consulting firm, which he formed in 1988. He is an experienced advisor to companies across a variety of industries. Trevor serves on numerous corporate boards and is chairman of several.



**DIANNE ANGUS**  
Non-Executive Director

BSc (Hons), Master of Biotechnology, IPTA

Dianne joined the Neuren Board in July 2018. She has worked as a senior executive and non-executive director within the biotechnology, biopharmaceutical and agritech industries for over twenty-five years. She has created numerous global industry partnerships which include Prana Biotechnology, Gerolymatos International, Florigene, Suntory & Monsanto to yield novel and competitive medical, pharmaceutical and agricultural products. Dianne has successfully forged strong partnerships with key medical opinion leaders to create innovative clinical research programs and driven the development path for novel neurological pre-clinical agents to late-stage clinical assets before the FDA and European regulators. With over fifteen years' experience in an ASX and NASDAQ listed company, she has expertise in business development, capital raising, investor relations, regulatory affairs and intellectual property, together with corporate governance and compliance capabilities. Dianne holds a Masters degree in biotechnology and is a registered patent attorney.



**DR JENNY HARRY**  
Non-Executive Director

BSc (Hons), PhD

Jenny joined the Neuren Board in 2018. She has 20 years' experience in executive management of companies in the biotechnology and biopharmaceutical industry. Jenny is an accomplished CEO and Managing Director with experience in growing companies from start-up to commercialisation. She has served on Board's of a number of listed and unlisted companies and is currently a Non-Executive Director of Aeris Environmental Limited (ASX:AEI) and on the Board's IP sub-committee of the Children's Medical Research Institute. Jenny is a graduate of the Harvard Business School General Manager Program and the Australian Institute of Company Directors.

## MANAGEMENT TEAM



### **JON PILCHER**

#### **Chief Executive Officer/Managing Director**

BSc (Hons), FCA

Jon joined Neuren in August 2013 as CFO and was appointed CEO in May 2020. He has played a central role in all aspects of Neuren's R&D, commercial and corporate activities. Before joining Neuren he was a member of the leadership team at Acrux (ASX: ACR) throughout a period that included Acrux's IPO and listing on the ASX, the development and FDA approval of three novel pharmaceutical products and a transforming licensing deal with Eli Lilly in 2010. He formerly spent seven years in a series of executive positions in the R&D and corporate functions of international pharmaceutical groups Medeva and Celltech, which are now part of UCB. Jon is a Chartered Accountant and holds a degree in Biotechnology from the University of Reading in the UK. He is a non-executive director of BTC Health Limited (ASX: BTC).



### **LARRY GLASS**

#### **Chief Science Officer**

BA (Biology)

Larry joined Neuren in 2004 and was an Executive Director from 2012 to 2018. He directs Neuren's scientific and non-clinical development, as well as playing a leading role in clinical and regulatory strategy. Larry has more than 30 years' experience in the life sciences industry, including clinical trials, basic and applied research, epidemiologic studies, diagnostics and pharmaceutical product development. Before he joined Neuren, he worked as an independent consultant for a number of biotech companies in the US and internationally provided management, strategic and business development services. Prior to that, he was CEO of a contract research organisation that provided preclinical research and clinical trials support for major pharmaceutical and biotechnology companies and the US government. For a number of years, the CRO operated as a subsidiary of a NYSE-listed company and was subsequently sold to a European biopharmaceutical enterprise which was then acquired by Johnson & Johnson. Larry is a biologist with additional graduate training in epidemiology and biostatistics.



### **DR NANCY JONES**

#### **Vice President, Clinical Development**

PhD

Nancy joined Neuren in January 2013. She leads the design and implementation of Neuren's clinical studies in neurodevelopmental disorders. Prior to joining Neuren, Nancy held a senior position at Autism Speaks, the largest science and advocacy organization in the US focused on autism spectrum and related disorders. She was at Autism Speaks for 6 years, directing the overall operations of the Autism Treatment Network, a network of hospitals and medical centers dedicated to improving access to comprehensive, coordinated medical care for individuals with ASD. She also oversaw the Autism Clinical Trials Network, a network developed to promote and expedite clinical trials in ASD, and played a lead role in an initiative to enhance the development of syndrome-specific outcome measures for treatment trials in ASD. Nancy received her Ph.D. in Applied Linguistics from the University of California, Los Angeles where she focused on the neurobiology of language and developmental disorders.



### **JAMES SHAW**

#### **Vice President, Clinical & Regulatory Operations**

BSc (Hons), MBA

James joined Neuren in August 2013, bringing twenty years of development and commercialisation experience in the Pharmaceutical Industry, having worked for both large Pharma and Clinical Research Organisations. He leads the clinical and regulatory execution of Neuren's programs. Before joining Neuren, James was CEO of a Clinical Research and Site Management Organisation providing full service clinical trial support in ANZ. Prior to that he spent seven years with Quintiles in Sydney and Singapore working across Business Development and Operational leadership roles. James brings a global focus to drug development, having led product teams from Phase 2 through to FDA submission and commercialisation during six years with AstraZeneca at their Global headquarters in the UK.

# MANAGEMENT TEAM

CONTINUED



## **DR CLIVE BLOWER**

**Vice President, Product Development**

BSc (Hons), PhD

Clive joined Neuren in August 2014, bringing over twenty years of global drug development experience. He has led all aspects of CMC (Chemistry, Manufacturing and Controls) development of both trofinetide and NNZ-2591. Before joining Neuren, Clive was at Acrux (ASX: ACR) for seven years as Director of Product Development and Technical Affairs and then Chief Operating Officer. During this period he led the CMC development of the company's lead product through Phase 3 clinical trials, FDA approval and commercial launch. Clive formerly served in senior management positions at Hospira Inc. (previously Faulding Pharmaceuticals, then Mayne Pharma), including leading the Injectable Drug Development Group. He earned a Doctorate in Chemistry from Monash University in 1992 and has experience in all stages of drug development, from concept to commercialisation, having contributed to the development and launch of more than 25 pharmaceutical products.



## **LAUREN FRAZER**

**Chief Financial Officer & Company Secretary**

BBus (Acc), CA

Lauren joined Neuren in March 2020 and brings over fifteen years of experience in accounting and finance. Prior to joining Neuren, Lauren was at Boundary Bend, one of Australia's leading agribusinesses and owner of Australian olive oil brands Cobram Estate and Red Island. Lauren was at Boundary Bend for ten years as Financial Controller and then Senior Manager of Accounting & Tax. Lauren is a Chartered Accountant and began her career with Pitcher Partners.



## **GERRY ZHAO**

**Vice President, Corporate Development**

B Com (Hons Finance), B Law (Hons)

Gerry has more than 16 years of global investment banking and financial services experience, with approximately 12 years at Bank of America Merrill Lynch responsible for healthcare investment banking coverage. He has advised numerous local and international corporations and private equity funds on public and private mergers and acquisitions, capital management and financing. Since 2019, Gerry has been consulting to several Australian and global biotech companies regarding strategic projects, including successfully facilitating the A\$400m strategic licence and commercial partnership between China Grand Pharmaceutical and Healthcare Holdings and Telix Pharmaceuticals in November 2020.



## **VIRGINIE DUREZ**

**Senior Director, Product Development & Project Management**

MSc, MBA, PMP®

Virginie joined Neuren in March 2021 and brings over twenty years of global pharmaceutical experience ranging from product ideation to product launch. Prior to joining Neuren, she worked with Pfizer for seventeen years through the legacy of Hospira and Mayne Pharma, in the Program Management, Commercial and Early Stage Development Groups and most recently worked as the Pipeline Development Lead for the Hospital Business Unit. Virginie has assessed, developed, and led over 100 global product strategies (US, EU, CAN, ANZ, China and Japan) and launched 3 products to the market. She is focused on bringing novel therapies that change patients' lives. Virginie received her Master of Chemistry and her Master of Chemical Engineering in France (University of Aix-Marseilles and Ecole Nationale Supérieure de Chimie de Toulouse), earned an MBA from the Australian Graduate School of Entrepreneurship, and is a PMP® practitioner.

# CORPORATE GOVERNANCE

Neuren's board of directors ("Board") aims to ensure that the Company and its subsidiaries (the "Group") operates with a corporate governance framework and practices that promote an appropriate governance culture throughout the organisation and that are relevant, practical and cost-effective for the current size and stage of development of the business.

This Statement provides a description of the framework and practices, laid out under the structure of the ASX Listing Rules and the Corporate Governance Principles (the "Principles") and Recommendations (the "Recommendations") 4th Edition.

## **PRINCIPLE 1. LAY SOLID FOUNDATIONS FOR MANAGEMENT AND OVERSIGHT**

The Board is responsible for the overall corporate governance of the Group. The Board acts on behalf of and is accountable to the shareholders. The Board seeks to identify the expectations of shareholders as well as other regulatory and ethical expectations and obligations. The Board is responsible for identifying areas of significant business risk and ensuring mechanisms are in place to manage those risks adequately. In addition, the Board sets the overall strategic goals and objectives, and monitors achievement of goals.

The Board appoints the principal executive officer, currently the Chief Executive Officer. The Board has delegated the responsibility for the operation and administration of the Group to the Chief Executive Officer and senior management. The Board ensures that the management team is appropriately qualified to discharge its responsibilities.

The Board ensures management's objectives and activities are aligned with the expectations and risks identified by the Board through a number of mechanisms including the following:

- establishment of the overall strategic direction and leadership of the Group;
- approving and monitoring the implementation by management of the Group's strategic plan to achieve those objectives;
- reviewing performance against its stated objectives, by receiving regular management reports on business situation, opportunities and risks;
- monitoring and review of the Group's controls and systems including those concerned with regulatory matters to ensure statutory compliance and the highest ethical standards; and
- review and adoption of budgets and forecasts and monitoring the results against stated targets.

The Board sets the corporate strategy and financial targets with the aim of creating long-term value for shareholders.

In accordance with Recommendation 1.2, the Board undertakes appropriate checks before appointing a new director, or putting forward to shareholders a candidate for election and provides shareholders with all material information in its possession relevant to a decision on whether or not to elect or re-elect a director.

The Group has a written agreement with each director and senior executive, setting out the terms of their appointment, in accordance with Recommendation 1.3. The Company Secretary is accountable directly to the Board on all matters to do with the proper functioning of the Board, in accordance with Recommendation 1.4.

At this stage of the Group's development, considering the very small size of the workforce and the specialist nature of most positions, the Board has chosen not to establish a formal diversity policy or formal objectives for gender diversity, as recommended in Recommendation 1.5. The Group does not discriminate on the basis of age, ethnicity, religion, gender or sexuality and when a position becomes vacant the Group seeks to employ the best candidate available for the position. Currently there are three male and two female directors. Three of the eight senior executives are female. The Group currently has eleven employees and consultants, of which six are female.

In accordance with Recommendation 1.6, there is a process to evaluate periodically the performance of the Board, its committees and individual directors. Each director completes a quantitative evaluation questionnaire and is able to provide qualitative comments. The Company Secretary collates the responses and reports back to the board for discussion. A performance evaluation was undertaken during 2021.

In accordance with Recommendation 1.7, there is a process for the Board to evaluate periodically the performance of the Chief Executive Officer and for the Chief Executive Officer to evaluate periodically the performance of senior executives. The evaluation of the Non-Executive Chair is part of the board performance evaluation process. For the evaluation of senior executives, an individual discussion is held after each senior executive complete a qualitative questionnaire, covering past individual and team achievements and challenges, as well as forward-looking outcomes and areas of personal focus. Performance evaluations were undertaken during 2021.

# CORPORATE GOVERNANCE

CONTINUED

## PRINCIPLE 2. STRUCTURE THE BOARD TO BE EFFECTIVE AND ADD VALUE

The Board has not considered it necessary or value-adding to establish a separate Nomination Committee (Recommendation 2.1). The selection, appointment and retirement of directors is considered by the full Board, within the framework of the skills matrix described below. The Board may also engage an external consultant where appropriate to identify and assess suitable candidates who meet the Board's specifications. The composition of the board is discussed regularly and each director may propose changes for discussion.

In accordance with Recommendation 2.2, the Company has a skills matrix setting out the mix of skills that the Board is looking to achieve in its membership. The matrix is summarised in the table below.

Skill	Requirements Overview
<b>Professional Director Skills</b>	
Risk & Compliance	Identify key risks to the organisation related to each key area of operations. Ability to monitor risk and compliance and knowledge of legal and regulatory requirements.
Financial & Audit	Experience in accounting and finance to analyze statements, assess financial viability, contribute to financial planning, oversee budgets and oversee funding arrangements.
Strategy	Ability to identify and critically assess strategic opportunities and threats to the organization. Develop strategies in context to our policies and business objectives.
Policy Development	Ability to identify key issues for the organisation and develop appropriate policy parameters within which the organization should operate.
Executive Management	Experience in evaluating performance of senior management, and oversee strategic human capital planning.
Previous Board Experience	The board's directors should have director experience and have completed formal training in governance and risk.
<b>Industry Specific Skills</b>	
Pharmaceutical product development	Experience in and/or understanding of the issues in clinical development, interactions with international regulators and/or CMC development.
International pharmaceutical commercialisation	Experience in and/or understanding of the issues in entering international pharmaceutical markets, including pricing, distribution and exclusivity.
Pharmaceutical partnering	Experience in and/or understanding of the issues in partnering transactions and/or relevant contacts in international pharma companies.
Risk capital management	Experience in raising funding from equity markets and/or relevant contacts in relevant funds and/or investment banks.
Intellectual property	Understanding of the importance and value of market exclusivity and the various ways of protecting it across different jurisdictions, including patents and data exclusivity.
<b>Interpersonal Skills</b>	
Leadership	Make decisions and take necessary actions in the best interest of the organisation, and represent the organisation favourably. Analyse issues and contribute at board level to solutions. Recognise the role of the board versus the role of management.
Ethics and Integrity	Understand role as director and continue to self educate on legal responsibility, ability to maintain board confidentiality, declare any conflicts.
Contribution	Ability to constructively contribute to board discussions and communicate effectively with management and other directors.
Crisis Management	Ability to constructively manage crises, provide leadership around solutions and contribute to communications strategy with stakeholders.

# CORPORATE GOVERNANCE

CONTINUED

The Board is highly engaged in the oversight and direction of the business. Five members served during the year to 31 December 2021, as set out in the table below. Details of the relevant skills, experience and expertise of each Board member are set out on page 15 of this report.

	Appointment	Retirement	Role	Independent	Committees
Patrick Davies	Appointment as director: 2018		Non-executive chair	Yes	Member of Audit Committee and Remuneration Committee
	Appointment as Chair: 2020				
Trevor Scott	2002		Non-executive director	Yes	Chair of Audit Committee and member of Remuneration Committee
Dianne Angus	2018		Non-executive director	Yes	Member of Audit Committee and Remuneration Committee
Jenny Harry	2018		Non-executive director	Yes	Member of Audit Committee and Chair of Remuneration Committee
Jon Pilcher	Appointment as director: 14 June 2021		Chief Executive Officer and Managing Director	No <sup>1</sup>	

<sup>1</sup> Jon Pilcher is not considered independent due to his executive role.

There is a majority of independent directors in accordance with Recommendation 2.4. The chair has been independent and the chair and chief executive officer roles are separate (Recommendation 2.5). The directors believe that the structure and membership profile of the Board has provided and continues to provide the maximum value to the business at its stage of its development.

In accordance with Recommendation 2.6, the Company has a program for inducting new directors and provides appropriate professional development opportunities for directors to develop and maintain the skills and knowledge needed to perform their role as directors effectively.

### PRINCIPLE 3. INSTIL A CULTURE OF ACTING LAWFULLY, ETHICALLY AND RESPONSIBLY

In accordance with Recommendation 3.1, the Group has articulated its values, which are disclosed on the Company website

- We are passionate about making a difference to the lives of patients and their families
- We aim to earn the respect of everyone we deal with
- We are determined and creative to break through barriers
- We harness the power of collaboration and different perspectives
- We recognise the importance of all stakeholders and endeavour to use financial resources efficiently

The Board has established a Code of Conduct (Recommendation 3.2), which requires that Board members and executives:

- will act honestly, in good faith and in the best interests of the whole Company
- owe a fiduciary duty to the Company as a whole
- have a duty to use due care and diligence in fulfilling the functions of office and exercising the powers attached to that office
- will undertake diligent analysis of all proposals placed before the Board
- will act with a level of skill expected from Directors and key executives of a publicly listed Company
- will use the powers of office for a proper purpose, in the best interests of the Company as a whole
- will demonstrate commercial reasonableness in decision-making
- will not make improper use of information acquired as Directors and key executives
- will not disclose non-public information except where disclosure is authorised or legally mandated

# CORPORATE GOVERNANCE

CONTINUED

- will keep confidential information received in the course of the exercise of their duties and such information remains the property of the Company from which it was obtained and it is improper to disclose it, or allow it to be disclosed, unless that disclosure has been authorised by the person from whom the information is provided, or required by law
- will not take improper advantage of the position of Director or use the position for personal gain or to compete with the Company
- will not take advantage of Company property or use such property for personal gain or to compete with the Company
- will protect and ensure the efficient use of the Company's assets for legitimate business purposes
- will not allow personal interests, or the interest of any associated person, to conflict with the interests of the Company
- have an obligation to be independent in judgement and actions and Directors will take all reasonable steps to be satisfied as to the soundness of all decisions of the Board
- will make reasonable enquiries to ensure that the Company is operating efficiently, effectively and legally, towards achieving its goals
- will not engage in conduct likely to bring discredit upon the Company
- will encourage fair dealing by all employees with the Company's customers, suppliers, competitors and other employees
- will encourage the reporting of unlawful/unethical behaviour and actively promote ethical behaviour and protection for those who report violations in good faith
- will give their specific expertise generously to the Company
- have an obligation, at all times, to comply with the spirit, as well as the letter of the law and with the principles of this Code of Conduct

Neuren is committed to the highest standards of conduct and ethical behaviour in all business activities. The Group's Whistleblower Policy is available on the Company website (Recommendation 3.3). Any material breaches of the Whistleblower Policy are to be reported to the Board.

The Group's Anti-bribery and Corruption is available on the Company website (Recommendation 3.4). Any material breaches of the Anti-bribery and Corruption Policy are to be reported to the Board.

## PRINCIPLE 4. SAFEGUARD INTEGRITY OF CORPORATE REPORTS

The Board has an Audit Committee, which consists of only independent non-executive directors, has at least 3 members and is chaired by an independent director as suggested in Recommendation 4.1. The Committee met twice during 2021, attended by all members.

The Committee operates under a charter approved by the Board, a summary of which is available on the Neuren website. It is responsible for undertaking a broad review of, ensuring compliance with, and making recommendations in respect of, the Group's internal financial controls and legal compliance obligations. In respect of financial reporting, it is also responsible for:

- review of audit assessment of the adequacy and effectiveness of internal controls over the Company's accounting and financial reporting systems, including controls over computerised systems;
- review of the audit plans and recommendations of the external auditors;
- evaluating the extent to which the planned scope of the audit can be relied upon to detect weaknesses in internal control, fraud and other illegal acts;
- review of the results of audits, any changes in accounting practices or policies and subsequent effects on the financial statements and make recommendations to management where necessary and appropriate;
- review of the performance and fees of the external auditor;
- audit of legal compliance including trade practices, corporations law, occupational health and safety and environmental statutory compliance, and compliance with the Listing Rules of the ASX;
- supervision of special investigations when requested by the Board;

In undertaking these tasks the Audit Committee meets separately with management and external auditors where required.

In accordance with Recommendation 4.2, the Board also, before it approves the entity's financial statements for a financial period, receives a declaration in writing from the Chief Executive Officer and the Chief Financial Officer that the financial records of the company have been properly maintained and that the financial statements are in accordance with New Zealand Equivalents to International

# CORPORATE GOVERNANCE

CONTINUED

Financial Reporting Standards (NZ FRS) and present a true and fair view, in all material respects, of the Group's financial position and performance and that this opinion is founded on a sound system of risk management and internal control that is operating effectively in all material respects with regard to business and financial reporting risks. The Board received those assurances for the annual financial statements on 23 February 2022.

For other periodic corporate reports released to the market that are not audited or reviewed by an external auditor, processes are in place to ensure that the reports are materially accurate, balanced and provide investors with appropriate information to make informed investment decisions (Recommendation 4.3). Reports are prepared by the Chief Financial Officer and reviewed by the Chief Executive Officer, or are prepared by the Chief Executive Officer and reviewed by the Board. The Board receives a declaration in writing from the Chief Financial Officer and Chief Executive Officer regarding those reports.

## **PRINCIPLE 5. MAKE TIMELY AND BALANCED DISCLOSURE**

Neuren is required to comply with the continuous disclosure requirements as set out in the ASX Listing Rules, disclosing to the ASX any information that a reasonable person would expect to have a material effect on the price or value of Neuren's securities, unless certain exemptions from the obligation to disclose apply.

In accordance with Recommendation 5.1, the Board has approved policies and procedures to ensure that it complies with its disclosure obligations and that disclosure is timely, factual, clear and objective. The Board has designated the company secretary as the person primarily responsible for implementing and monitoring those policies and procedures. A summary of the policies and procedures is available on the Neuren website. All information disclosed to the ASX is placed on the Neuren website after it has been published by the ASX, and the Board receives copies of all material market announcements promptly after they have been made (Recommendation 5.2).

All investor or analyst presentations with new information are released on the ASX Market Announcements Platform ahead of such presentations, in accordance with Recommendation 5.3.

## **PRINCIPLE 6. RESPECT THE RIGHTS OF SECURITY HOLDERS**

The Board strives to communicate effectively with shareholders, give them ready access to balanced and understandable information about the business and make it easy for them to participate in shareholder meetings.

In accordance with Recommendation 6.1, comprehensive information about the Company and its governance is provided via the website [www.neurenpharma.com](http://www.neurenpharma.com). This includes information about the Board and senior executives, as well as corporate governance policies. All announcements, presentations, financial information and meetings materials disclosed to the ASX are placed on the website, so that current and historical information can be accessed readily.

The Company's investor relations program facilitates effective two-way communication with investors (Recommendation 6.2). Supported by the Non-Executive Chair, the Chief Executive Officer interacts with institutional investors, private investors, analysts and media on an ad hoc basis, conducting meetings in person or by video/teleconference and responding personally to enquiries.

The Board seeks practical and cost-effective ways to promote informed participation at shareholder meetings (Recommendation 6.3). This includes providing access to clear and comprehensive meeting materials and electronic proxy voting. The Annual Shareholders' Meeting in 2021 was conducted as a virtual meeting, with participation by electronic means.

All resolutions at the Company's Annual Shareholders' Meeting in 2021 were decided by a poll (Recommendation 6.4)

In accordance with Recommendation 6.5, shareholders are provided with and encouraged to use electronic methods to communicate with the Company and with the share registry.

## **PRINCIPLE 7. RECOGNISE AND MANAGE RISK**

The Board has established policies for the oversight and management of material business risks, a summary of which is available on the Neuren website. The Board does not have a separate committee to oversee risk, judging that the whole Board is better able to conduct that function efficiently and effectively, given the small size of the Board and the specialised nature of the business (Recommendation 7.1).



# CORPORATE GOVERNANCE

CONTINUED

In accordance with Recommendation 7.2, the Board reviews the Group's risk management framework at least annually to satisfy itself that it continues to be sound. A review was conducted in 2021.

The size and complexity of the Group's business is not sufficient to warrant an internal audit function (Recommendation 7.3). The risk management policy is designed to involve the entire organisation in risk management and to ensure that the effectiveness of the risk management and internal control processes are continually improved.

The Group does not have a material exposure to economic, environmental or social sustainability risks (Recommendation 7.4).

## **PRINCIPLE 8. REMUNERATE FAIRLY AND RESPONSIBLY**

Neuren believes having highly skilled and motivated people will allow the organisation to best pursue its mission and achieve its goals for the benefit of shareholders and stakeholders more broadly. The ability to attract and retain the best people is critical to the Company's future success. The Board believes remuneration policies are a key part of ensuring this success.

The Board has a Remuneration Committee, which consists of only independent non-executive directors, has at least three members and is chaired by an independent director as suggested in Recommendation 8.1. The Committee met once during 2021.

The Committee operates under a charter approved by the Board, a summary of which is available on the Neuren website. It is responsible for undertaking a broad review of, ensuring compliance with, and making recommendations in respect of, the Group's remuneration policies. It is also responsible for:

- setting and reviewing compensation policies and practices of the Company;
- setting and reviewing all elements of remuneration of the directors and members of the executive team; and
- setting and reviewing long term incentive plans for employees and/or directors.

In undertaking these tasks the Remuneration Committee meets separately with management where required.

The Group's remuneration policies and practices are summarised below, in accordance with Recommendation 8.2.

The Remuneration Committee assesses the appropriateness of the nature and amount of remuneration of executive directors and senior executives on a regular basis by reference to relevant employment market conditions, with the overall objective of ensuring maximum shareholder benefit from the retention of a high quality executive team. To assist in achieving these objectives, the nature and amount of executive remuneration is linked to the Company's performance. Remuneration consists of fixed cash remuneration, including superannuation contributions required by law, and equity-based remuneration. Fixed cash remuneration takes into account labour market conditions, as well as the scale and nature of the Group's business. Equity-based remuneration is provided by participation in a share option plan, a loan funded share plan and equity performance rights. These are designed to ensure that key executives are aligned with shareholders through an interest in the long-term growth and value of the Company. Senior executive service agreements generally include a requirement for 3 months' notice of termination by the executive or the Group. There are no other termination payments. Termination for misconduct does not require notice or payment.

Remuneration of non-executive directors comprises fixed cash fees only. The fees are determined by the Board within the aggregate limit for directors' fees approved by shareholders. Non-executive directors on payroll receive retirement benefits as part of their fixed fee. All other non-executive directors receive no retirement benefits.

Participants in equity based remuneration schemes are not permitted to enter into transactions which limit the economic risk of participating in the scheme (Recommendation 8.3).

## **PRINCIPLE 9. ADDITIONAL RECOMMENDATIONS**

Neuren is incorporated in New Zealand and ensures meetings of security holders are held at a reasonable place and time (Recommendation 9.2).

Since Neuren is incorporated in New Zealand and applies New Zealand financial reporting standards, its auditor is located in New Zealand. The Board has considered it impractical and an unnecessary expense for the auditor to travel to Australia to attend the annual general meeting in person, as suggested in Recommendation 9.3. The Company's constitution enables the Board to convene virtual shareholder meetings, with participation by electronic means.

# DIRECTORS' REPORT

## PRINCIPAL ACTIVITIES

Neuren Pharmaceuticals Limited (Neuren or the Company, and its subsidiaries, or the Group) is a publicly listed biopharmaceutical company developing drugs for neurological disorders.

## REVIEW OF OPERATIONS

Neuren is developing two new drug therapies to treat multiple neurodevelopmental disorders that emerge in early childhood and are characterized by impaired connection and signalling between brain cells. No approved therapies are currently available for these seriously debilitating disorders. Neuren's potential therapies utilize synthetic analogs of neurotrophic peptides that occur naturally in the brain.

During the year ended 31 December 2021, significant progress was made in both the development of trofinetide for Rett syndrome and the development of NNZ-2591 for Phelan-McDermid syndrome, Angelman syndrome, Pitt Hopkins syndrome and Prader-Willi syndrome.

In December 2021 Neuren's partner for trofinetide in North America, Acadia Pharmaceuticals (Nasdaq: ACAD), announced positive top-line results from the pivotal, Phase 3 Lavender™ study evaluating the efficacy and safety of trofinetide in 187 girls and young women aged 5-20 years with Rett syndrome. The 12-week placebo-controlled study demonstrated a statistically significant improvement over placebo for both co-primary endpoints. On the Rett Syndrome Behaviour Questionnaire (RSBQ), change from baseline to week 12 was -5.1 vs. -1.7 (p=0.0175; effect size=0.37). The Clinical Global Impression-Improvement (CGI-I) score at week 12 was 3.5 vs. 3.8 (p=0.0030; effect size=0.47). The RSBQ is a caregiver assessment of the core symptoms of Rett syndrome and the CGI-I is a global physician assessment of worsening or improving of Rett syndrome. Additionally, trofinetide demonstrated a statistically significant separation over placebo on the key secondary endpoint, the Communication and Symbolic Behavior Scales Developmental Profile™ Infant-Toddler Checklist-Social composite score (CSBS-DP-IT-Social) change from baseline to week 12 was -0.1 vs. -1.1 (p=0.0064; effect size=0.43).

The trofinetide program has Orphan Drug, Fast Track and Rare Pediatric Disease designations from the US Food and Drug Administration (FDA). Acadia plans to submit a New Drug Application (NDA) to the US Food and Drug Administration (FDA) around mid-year 2022. A NDA with

Orphan Drug Designation is eligible for Priority Review in 6 months, compared with the standard review period of 10 months, which means potential for approval in the first quarter of 2023. Upon FDA approval of a NDA with Rare Pediatric Disease designation, the sponsor may be eligible to receive a Priority Review Voucher, which can be used to obtain FDA review of a NDA for another product in an expedited period of six months. The voucher may also be sold for use by another company. In February 2022, a voucher was sold for US\$110 million.

Under the terms of the licence agreement with Acadia, the development and commercialisation of trofinetide in North America is fully funded by Acadia and Neuren may receive potential milestone payments of up to US\$455 million, plus tiered escalating double-digit percentage royalties on net sales of trofinetide in North America, plus one third of the market value of a Rare Pediatric Disease Priority Review Voucher if awarded by the FDA upon approval of a NDA for trofinetide.

Neuren expects to receive revenue over 2022 and 2023 for Rett syndrome in the US alone of A\$115 million plus double-digit percentage royalties on net sales. The expected revenue in addition to royalties comprises:

- A milestone payment in 2022 of US\$10 million (A\$14 million at assumed exchange rate of 0.72) following acceptance of the NDA for review by the FDA;
- A milestone payment in 2023 of US\$40 million (A\$55 million), following the first commercial sale of trofinetide in the United States; and
- US\$33 million (A\$46 million) in 2023 as Neuren's estimated one third share of the market value of a Priority Review Voucher.

Under the terms of the licence agreement with Acadia, Neuren retained all rights to trofinetide outside North America and has a fully paid-up, irrevocable licence to all data for use in those countries. There is urgent unmet need for a treatment for Rett syndrome around the world. Neuren has received strong interest for potential commercial partnerships and the number of interested parties has increased significantly since the Phase 3 results were announced. Discussions are now in progress under a process to secure the best outcome for shareholders and for patients.

Neuren is also preparing for Phase 2 clinical trials of its second drug candidate NNZ-2591 for Phelan-McDermid syndrome, Angelman syndrome and Pitt Hopkins syndrome. Based on its mechanism of action and positive results in animal models, NNZ-2591 has received Orphan Drug designation in both the United States and the European Union for each of these disorders.

# DIRECTORS' REPORT

CONTINUED

In February 2021, Neuren announced completion of a Phase 1 clinical trial in Australia, in which twice daily oral dosing of NNZ-2591 for seven days was safe and well tolerated in healthy volunteers at doses expected to be within the effective therapeutic range. An extensive range of non-clinical toxicology and manufacturing studies have also been completed. In September 2021, Neuren submitted to the FDA three Investigational New Drug (IND) applications for review and clearance to start Phase 2 trials in each of Phelan-McDermid syndrome, Angelman syndrome and Pitt Hopkins syndrome. Following feedback from the FDA, Neuren was required to add additional clinical assessments to each trial protocol to enhance safety monitoring during these first trials in pediatric patients. Neuren worked with expert clinical advisors to address all the detailed feedback that was received from the FDA and has recently submitted all three protocols for FDA review. The programs are supervised by the FDA Office of Neuroscience, with Phelan-McDermid and Pitt Hopkins reviewed by the Division of Neurology 1 and Angelman reviewed by the Division of Psychiatry.

A fourth disorder, Prader-Willi syndrome was added to the NNZ-2591 development pipeline in February 2021, when Neuren announced positive results in the *Magel2*-null mouse model of Prader-Willi syndrome, in which treatment with NNZ-2591 for 6 weeks normalized fat mass, insulin levels, IGF-1 levels and all behavioural defects. The FDA granted Orphan Drug designation to NNZ-2591 for the treatment of Prader-Willi syndrome in September 2021. Neuren is planning to commence a Phase 2 clinical trial in Prader-Willi syndrome in mid-2022.

The consolidated financial statements are presented on pages 30 to 46. All amounts in the consolidated Financial Statements are shown in Australian dollars unless otherwise stated.

The Group's loss after tax attributable to equity holders of the Company for the year ended 31 December 2021 was \$7.8 million compared with the Group's loss after tax of \$9.2 million in 2020. This was mainly due to the R&D Tax incentive income of \$3.2 million (2020: \$0.7 million) following AusIndustry's approval of an Advance and Overseas finding for the development of NNZ-2591 as a novel therapy for neurodevelopmental disorders. Research and development costs were \$1.7 million higher, due to an increase in expenditures in 2021 for the NNZ-2591 non-

clinical studies, Phase 1 trial, Phase 2 trials and manufacture of the required drug for the Phase 2 trials. In addition, foreign exchange gains were \$0.4 million compared with foreign exchange losses of \$0.6 million in 2020. This is due to an increase in the carrying value in AUD of USD cash held to eliminate exchange risk for USD expenditure, as a result of the strengthening of the USD against the AUD. Prudent control of expenditure continues to be an important principle in the Group's operations and financing.

The basic loss per share for 2021 was \$0.066 (2020: earnings of \$0.086 per share), based on a weighted average number of shares outstanding of 117,770,052 (2020: 107,057,317).

Cash reserves at 31 December 2021 were \$36.8 million (2020: \$24.2 million). Net cash used in operating activities was \$10.0 million (2020: \$8.1 million). The increase of \$1.9 million was mainly in payments to other suppliers, due to higher research and development expenditure of \$3.5 million, which was partially offset by the receipt of \$2.5 million under the R&D Tax Incentive program (2020: \$0.5 million). Financing provided cash of \$22.2 million, received for the issue of new ordinary shares in the capital raise and share purchase plan, compared with \$19.1 million in 2020.

In September 2021, the Group announced the successful completion of a capital raise of \$20 million. The Group issued 9,756,098 fully paid ordinary shares at an issue price of \$2.05 per share to institutional investors in Australia and overseas. In October, the Group announced the completion of its Share Purchase Plan (SPP), raising \$3.3m and issuing 1,601,470 new fully paid ordinary shares at \$2.05 per share. The funds will accelerate the development and increase the value of NNZ-2591 for four neurodevelopmental disorders, by enabling a Phase 2 clinical trial in Prader-Willi syndrome and the foundational work for Phase 3 development across Prader-Willi, Phelan-McDermid, Angelman and Pitt-Hopkins syndromes.

No dividends were paid in the year, or in the prior year and the Directors recommend none for the year.

# DIRECTORS' REPORT

CONTINUED

## DIRECTORS

### **Patrick Davies B EC, MBA** *(Non-Executive Chair)*

Patrick joined the Neuren Board in July 2018. He has held executive management roles in the Australian and New Zealand healthcare industry for over twenty five years having performed successfully in senior roles across many industry sectors including pharmacy, primary care, pharmaceutical and consumer products. During his ten year period as Chief Executive Officer of EBOS Group Limited (and previously Symbion), the enterprise value of the group achieved compound annual growth in enterprise value of +20% (from circa \$450M to in excess of \$3.1B). He is a director on other corporate boards and provides strategic advice to a range of healthcare businesses and investors.

### **Jon Pilcher BSc (Hons), FCA** *(Managing Director)*

Jon joined Neuren in August 2013 as CFO and was appointed CEO in May 2020. Jon was appointed to the Board as Managing Director in June 2021. He has played a central role in all aspects of Neuren's R&D, commercial and corporate activities. Before joining Neuren he was a member of the leadership team at Acrux (ASX: ACR) throughout a period that included Acrux's IPO and listing on the ASX, the development and FDA approval of three novel pharmaceutical products and a transforming licensing deal with Eli Lilly in 2010. He formerly spent seven years in a series of senior financial positions in the R&D and corporate functions of international pharmaceutical groups Medeva and Celltech, which are now part of UCB. Jon is a Chartered Accountant and holds a degree in Biotechnology from the University of Reading in the UK. He is a non-executive director of BTC Health (ASX:BTC).

### **Dr Trevor Scott, MNZM, LLD (Hon), BCom, FCA, FNZIM, DF Inst D** *(Non-Executive Director)*

Trevor joined the Neuren Board in March 2002. He is the founder of T.D. Scott and Co., an accountancy and consulting firm, which he formed in 1988. He is an experienced advisor to companies across a variety of industries. Trevor serves on numerous corporate boards and is chairman of several.

### **Dianne Angus BSc (Hons), Master of Biotechnology, IPTA** *(Non-Executive Director)*

Dianne joined the Neuren Board in July 2018. She has worked as a senior executive and non-executive director within the biotechnology, biopharmaceutical and agritech industries for over twenty-five years. She has created numerous global industry partnerships which include Prana Biotechnology, Gerolymatos International, Florigene, Suntory & Monsanto to yield novel and competitive medical, pharmaceutical and agricultural products. Dianne has successfully forged strong partnerships with key medical opinion leaders to create innovative clinical research programs and driven the development path for novel neurological pre-clinical agents to late-stage clinical assets before the FDA and European regulators. With over fifteen years' experience in an ASX and NASDAQ listed company, she has expertise in business development, capital raising, investor relations, regulatory affairs and intellectual property, together with corporate governance and compliance capabilities. Dianne holds a Masters degree in biotechnology and is a registered patent attorney.

### **Dr Jenny Harry BSc (Hons), PhD** *(Non-Executive Director)*

Jenny joined the Neuren Board in 2018. She has 20 years' experience in executive management of companies in the biotechnology and biopharmaceutical sectors. Jenny is an accomplished CEO and Managing Director with experience in growing companies from start-up to commercialisation. She has served on the Boards of a number of listed and unlisted companies and is currently a Non-Executive Director of Aeris Environmental Limited (ASX:AEI) and on the Board's IP sub-committee of the Children's Medical Research Institute. Jenny is a graduate of the Harvard Business School General Manager Program and the Australian Institute of Company Directors.

# DIRECTORS' REPORT

CONTINUED

## BOARD AND COMMITTEE ATTENDANCE

The table below shows the number of Board and Committee meetings each Director was eligible to attend and attended during the financial year ended 31 December 2021:

Director	Board		Audit and Risk		Remuneration	
	Held <sup>(i)</sup>	Attended	Held <sup>(i)</sup>	Attended	Held <sup>(i)</sup>	Attended
Patrick Davies	11	11	2	2	1	1
Dr Trevor Scott	11	11	2	2	1	1
Dianne Angus	11	11	2	2	1	1
Dr Jenny Harry	11	11	2	2	1	1
Jonathan Pilcher <sup>(ii)</sup>	7	7	–	–	–	–

(i) Number of meetings held during the time the Director was a member of the Board or Committee

(ii) Appointed to the Board on 14 June 2021.

## INTERESTS REGISTER

The Company is required to maintain an interests register in which particulars of certain transactions and matters involving Directors must be recorded. Details of the entries in this register for each of the Directors during and since the end of 2021 are as follows:

Director	Ordinary Shares Purchased/(Sold)	Consideration Paid/(Received)	Date of Transaction
Jon Pilcher	19,039	\$25,000	15 Jun 2021
Jon Pilcher	7,317	\$15,000	08 Oct 2021
Patrick Davies	35,211	\$50,175	17 Feb 2021
Patrick Davies	14,634	\$30,000	08 Oct 2021
Dianne Angus	30,000	\$59,316	15/18 Oct 2021
Dr Jenny Harry	9,756	\$20,000	08 Oct 2021

## INFORMATION USED BY DIRECTORS

During the year the Board received no notices from Directors of the Company requesting to use Company information received in their capacity as Directors, which would not otherwise have been available to them.

## INDEMNIFICATION AND INSURANCE OF DIRECTORS AND OFFICERS

Neuren has entered into a deed of indemnity, insurance and access with Directors and Officers, which provides that Directors and Officers generally will incur no monetary loss as a result of actions undertaken by them as Directors and Officers. The indemnity does not cover criminal liability or liability in respect of a breach of a director's duty to act in good faith and in what the director believes to be the best interests of the Company or a breach of any fiduciary duty owed to the Company or a subsidiary.

## DONATIONS

No donations were made by the Company or its subsidiary companies during the year (2020: \$nil).

# DIRECTORS' REPORT

CONTINUED

## NON-EXECUTIVE DIRECTOR REMUNERATION

Remuneration of Non-Executive Directors is shown in the table below:

Remuneration of Directors	2021 \$	2020 \$
Patrick Davies (appointed Chair May 2020)	120,000	95,000
Dr Trevor Scott	72,000	72,000
Dianne Angus	60,000	60,000
Dr Jenny Harry	66,000	60,000

## EXECUTIVE DIRECTOR REMUNERATION

The Managing Director, Jon Pilcher, receives remuneration and other benefits in his executive role as Chief Executive Officer and, accordingly, does not receive a director fee. The table below shows the total remuneration for Jon Pilcher since his appointment to Managing Director on 14 June 2021.

Director	Fixed remuneration (including superannuation) \$	Share based payments \$	Total Remuneration \$
<b>2021</b>			
Jonathan Pilcher	203,125	229,123	432,248
<b>2020</b>			
Dr Richard Treagus (resigned May 2020)	146,000	-	146,000

## EMPLOYEE REMUNERATION

The number of employees, not being directors of the Company, who received remuneration and benefits in their capacity as employees totalling NZ \$100,000 or more during the year, shown in bands denominated in Australian dollars, was as follows:

Excluding shared based payments	2021 \$'000	2020 \$'000
\$100,000 - \$109,999	-	1
\$160,000 - \$169,999	1	-
\$170,000 - \$179,999	2	-
\$250,000 - \$259,999	-	1
\$270,000 - \$279,999	1	-
\$280,000 - \$289,999	-	1
\$290,000 - \$299,999	1	-
\$340,000 - \$349,999	-	1

# DIRECTORS' REPORT

CONTINUED

Including shared based payments	2021 \$'000	2020 \$'000
\$100,000 - \$109,999	-	1
\$160,000 - \$169,999	1	-
\$170,000 - \$179,999	1	-
\$350,000 - \$359,999	-	1
\$360,000 - \$369,999	1	-
\$380,000 - \$389,999	-	1
\$480,000 - \$489,999	1	-
\$500,000 - \$509,999	1	-
\$540,000 - \$549,999	-	1

## AUDITORS

Grant Thornton New Zealand Audit Limited ('Grant Thornton') is the independent auditor of the Company. Audit fees in relation to the annual and interim financial statements were \$65,921 (2020: \$57,759). Grant Thornton did not receive any other fees in relation to other financial advice and services. No amounts were payable to an auditor by subsidiary companies in 2021 or 2020.

For and on behalf of the Board of Directors who authorised the issue of these consolidated financial statements on 23 February 2022.



**Patrick Davies**  
Non-Executive Chair



**Dr Trevor Scott**  
Director

## CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 31 DECEMBER 2021

	Note	2021 \$'000	2020 \$'000
Interest		41	147
Foreign exchange gain		398	–
Australian R&D tax incentive		3,197	717
Other income		–	100
<b>Total income</b>		<b>3,636</b>	<b>964</b>
Research and development costs		(9,516)	(7,763)
Corporate and administrative costs		(1,914)	(1,763)
Foreign exchange loss		–	(631)
<b>Loss before income tax</b>		<b>(7,794)</b>	<b>(9,193)</b>
Income tax	5	–	–
<b>Loss after income tax</b>		<b>(7,794)</b>	<b>(9,193)</b>
<b>Other comprehensive loss, net of tax</b>			
Amounts which may be subsequently reclassified to profit or loss:			
Exchange differences on translation of foreign operations		(4)	11
<b>Total comprehensive loss for the year</b>		<b>(7,798)</b>	<b>(9,182)</b>
<b>Loss after tax attributable to Equity holders of the Company:</b>		<b>(7,794)</b>	<b>(9,193)</b>
<b>Total comprehensive loss attributable to Equity holders of the Company:</b>		<b>(7,798)</b>	<b>(9,182)</b>
<b>Basic loss per share</b>	6	(\$0.066)	(\$0.086)
<b>Diluted loss per share</b>	6	(\$0.066)	(\$0.086)

The notes on pages 34 to 46 form part of these consolidated financial statements.



## CONSOLIDATED STATEMENT OF FINANCIAL POSITION

AS AT 31 DECEMBER 2021

	Note	2021 \$'000	2020 \$'000
<b>ASSETS</b>			
<b>Current Assets:</b>			
Cash and cash equivalents	7	36,783	24,188
Trade and other receivables	8	3,261	755
<b>Total current assets</b>		40,044	24,943
<b>Non-current assets:</b>			
Property, plant and equipment		12	10
<b>Total non-current assets</b>		12	10
<b>TOTAL ASSETS</b>		40,056	24,953
<b>LIABILITIES AND EQUITY</b>			
<b>Current liabilities:</b>			
Trade and other payables	9	803	753
<b>Total current liabilities</b>		803	753
<b>Total liabilities</b>		803	753
<b>EQUITY</b>			
Share capital	10	167,578	145,567
Other reserves		(9,448)	(10,284)
Accumulated deficit		(118,877)	(111,083)
<b>Total equity attributable to equity holders</b>		39,253	24,200
<b>TOTAL LIABILITIES AND EQUITY</b>		40,056	24,953

The notes on pages 34 to 46 form part of these consolidated financial statements.

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

FOR THE YEAR ENDED 31 DECEMBER 2021

	Share Capital \$'000	Share Option Reserve \$'000	Currency Translation Reserve \$'000	Accumulated Deficit \$'000	Total Equity \$'000
<b>Equity as at 1 January 2020</b>	126,426	2,186	(10,689)	(104,076)	13,847
Shares issued in capital raising	20,000	-	-	-	20,000
Shares issued in share purchase plan	216	-	-	-	216
Share issue costs	(1,075)	-	-	-	(1,075)
Transfer on expiry of options	-	(2,186)	-	2,186	-
Loan funded share payments	-	394	-	-	394
Transactions with owners	19,141	(1,792)	-	2,186	19,535
Loss after income tax	-	-	-	(9,193)	(9,193)
Other comprehensive loss	-	-	11	-	11
Total Comprehensive income for the year	-	-	11	(9,193)	(9,182)
<b>Equity as at 31 December 2020</b>	145,567	394	(10,678)	(111,083)	24,200
Shares issued in capital raising	20,000	-	-	-	20,000
Shares issued in share purchase plan	3,281	-	-	-	3,281
Share issue costs	(1,270)	-	-	-	(1,270)
Loan funded share payments	-	840	-	-	840
Transactions with owners	22,011	840	-	-	22,851
Loss after income tax	-	-	-	(7,794)	(7,794)
Other comprehensive loss	-	-	(4)	-	(4)
Total Comprehensive loss for the year	-	-	(4)	(7,794)	(7,798)
<b>Equity as at 31 December 2021</b>	167,578	1,234	(10,682)	(118,877)	39,253

The notes on pages 34 to 46 form part of these consolidated financial statements.

## CONSOLIDATED STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 31 DECEMBER 2021

	Note	2021 \$'000	2020 \$'000
<b>Cash flows from operating activities:</b>			
Receipts from Australian R&D Tax Incentive		2,521	491
Interest received		54	164
GST refunded		372	283
Receipts from government cash flow boost		–	100
Payments for employees and directors		(1,756)	(1,480)
Payments to other suppliers		(11,161)	(7,636)
<b>Net cash flow used in operating activities</b>		<b>(9,970)</b>	<b>(8,078)</b>
<b>Cash flows from investing activities:</b>			
Purchase of property, plant and equipment		(10)	(6)
<b>Net cash used in investing activities</b>		<b>(10)</b>	<b>(6)</b>
<b>Cash flows from financing activities:</b>			
Proceeds from the issue of shares	10	23,281	20,216
Payment of share issue expenses		(1,106)	(1,075)
<b>Net cash provided from financing activities</b>		<b>22,175</b>	<b>19,141</b>
Net increase / (decrease) in cash		12,195	11,057
Effect of exchange rate changes on cash balances		400	(713)
Cash and cash equivalents at the beginning of the year		24,188	13,844
<b>Cash and cash equivalents at the end of the year</b>		<b>36,783</b>	<b>24,188</b>
<b>Reconciliation with loss after income tax:</b>			
(Loss) / Profit after income tax		(7,794)	(9,193)
<i>Non-cash items requiring adjustment:</i>			
Depreciation of property, plant and equipment		8	6
Loan funded share payments expense		840	394
Foreign exchange (gain)/loss		(404)	724
<i>Changes in working capital:</i>			
Trade and other receivables		(2,506)	(203)
Trade and other payables		(114)	194
<b>Net cash used in operating activities</b>		<b>(9,970)</b>	<b>(8,078)</b>

The notes on pages 34 to 46 form part of these consolidated financial statements.

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2021

## 1. NATURE OF BUSINESS

Neuren Pharmaceuticals Limited (Neuren or the Company, and its subsidiaries, or the Group) is a publicly listed biopharmaceutical company developing drugs for neurological disorders.

The Company is a limited liability company incorporated in New Zealand. The address of its registered office in New Zealand is at the offices of Lowndes Jordan, Level 15 HSBC Tower, 188 Quay Street, Auckland 1141. Neuren ordinary shares are listed on the Australian Securities Exchange (ASX code: NEU).

These consolidated financial statements have been approved for issue by the Board of Directors on 23 February 2022.

### Material Uncertainties

- The Group's research and development activities involve inherent risks. These risks include, among others: dependence on, and the Group's ability to retain key personnel; the Group's ability to protect its intellectual property and prevent other companies from using the technology; the Group's business is based on novel and yet to be proven technology; the Group's ability to sufficiently complete the clinical trials process; and technological developments by the Group's competitors could render its products obsolete.
- The Group's revenue from licence agreements is contingent on future events and will be intermittent until product sales commence. The business plan therefore may require expenditure in excess of revenue and in the future the Group may need to raise further financing through other public or private equity financings, collaborations or other arrangements with corporate sources, or other sources of financing to fund operations. There can be no assurance that such additional financing, if available, can be obtained on terms reasonable to the Group.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

These general-purpose consolidated financial statements of the Group are for the year ended 31 December 2021 and have been prepared in accordance with and comply with generally accepted accounting practice in New Zealand (GAAP), New Zealand equivalents to International Financial Reporting Standards (NZ IFRS) issued by the New Zealand Accounting Standards Board which comply with International Financial Reporting Standards, the requirements of the Financial Markets Conduct Act 2013, and other applicable Financial Reporting Standards as appropriate for profit-oriented entities that fall into Tier 1 as determined by the New Zealand External Reporting Board.

### (a) Basis of preparation

#### Entities Reporting

The consolidated financial statements incorporate the assets and liabilities of all subsidiaries of the Group as at 31 December 2021 and the results of all subsidiaries for the year then ended. Neuren Pharmaceuticals Limited and its subsidiaries, which are designated as profit-oriented entities for financial reporting purposes, together are referred to in these financial statements as the Group.

#### Statutory Base

Neuren is registered under the New Zealand Companies Act 1993. Neuren is also registered as a foreign company under the Australian *Corporations Act 2001*.

#### Historical cost convention

These consolidated financial statements have been prepared under the historical cost convention as modified by certain policies below. Amounts are expressed in Australian Dollars and are rounded to the nearest thousand, except for earnings per share.

#### Critical accounting estimates

The preparation of financial statements requires the use of certain critical accounting estimates. It also requires the Group to exercise its judgement in the process of applying the Group's accounting policies. Actual results may differ from those estimates. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in Note 16.

#### Going concern basis

The directors monitor the Group's cash position and initiatives to ensure that adequate funding continues to be available for the Group to meet its business objectives. The Group recorded a loss after tax of \$7.8 million for the year ending 31 December 2021 and had negative operating cash flows of \$10.0 million for the year ended 31 December 2021. The Group had net assets at 31 December 2021 of \$39.3 million, including cash balances and receivables of \$40.0 million.

In September 2021, the Group announced the successful completion of a capital raise of \$20 million. The Group issued 9,756,098 fully paid ordinary shares at an issue price of \$2.05 per share to institutional investors in Australia and overseas. In October, the Group announced the completion of its Share Purchase Plan (SPP), raising \$3.3m and issuing 1,601,470 new fully paid ordinary shares at \$2.05 per share.

It is the considered view of the Directors that the Group will have access to adequate resources to meet its ongoing obligations for at least a period of 12 months from the date of signing these financial statements. On this basis, the Directors have assessed it is appropriate to adopt the going concern basis in preparing its consolidated financial statements. The consolidated financial statements do not include any adjustments that would result if the Group was unable to continue as a going concern.

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### *Impact of COVID-19 on our business*

On March 11, 2020 the World Health Organization declared a pandemic resulting from the disease known as COVID-19 caused by a novel strain of coronavirus, SARS-CoV-2. In an effort to contain COVID-19 or slow its spread, state or federal governments around the world have enacted various measures, including orders to close businesses not deemed “essential”, isolate residents to their homes or places of residence, and practice social distancing when engaging in essential activities. In certain jurisdictions, such orders have been lifted, although subsequent trends in COVID-19 infections have led to the reinstatement of such orders in various jurisdictions.

To date there has been no financial impact of COVID-19 on the Group. It is possible that clinical trials or other research and development activities for NNZ-2591 could be impacted in the future by COVID-19 restrictions or risks. The Group is continuing to monitor the situation and may take further actions affecting its business operations as are deemed necessary.

### *Changes in accounting policies*

There is no significant impact of changes in accounting policies for the year ended 31 December 2021.

### *Standards, interpretations and amendments to published standards that are not yet effective*

Certain new standards, amendments and interpretations to existing standards have been published that are mandatory for later periods and which the Group has not adopted early. None are expected to materially impact the Group.

## (b) Principles of Consolidation

### *Subsidiaries*

Subsidiaries are all entities (including structured entities) over which the group has control. The group controls an entity when the group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Subsidiaries are fully consolidated from the date on which control is transferred to the group. They are deconsolidated from the date that control ceases.

Inter-company transactions, balances and unrealised gains on transactions between group companies are eliminated. Unrealised losses are also eliminated. When necessary, amounts reported by subsidiaries have been adjusted to conform with the group’s accounting policies.

## (c) Foreign Currency Translation

### *(i) Functional and Presentation Currency*

The functional currency of the Company and the presentation currency of the Group is Australian Dollars.

### *(ii) Transactions and Balances*

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Statement of Comprehensive Income, except when deferred in equity as qualifying cash flow hedges and qualifying net investment hedges.

### *(iii) Foreign Operations*

The results and financial position of foreign entities (none of which has the currency of a hyperinflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- assets and liabilities for each statement of financial position presented are translated at the closing rate at the date of that statement of financial position;
- revenue and expenses for each Statement of Comprehensive Income are translated at average exchange rates; and
- all resulting exchange differences are recognised as a separate component of equity.

Exchange differences arising from the translation of any net investment in foreign entities, and of borrowings and other currency instruments designated as hedges of such investments, are taken to shareholders’ equity.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate.

## (d) Revenue

Revenue arises mainly from grants received and interest. Revenue is recognised either at a point in time or over time, when (or as) the Group satisfies performance obligations by transferring the promised goods or services to its customers.

### *Grants*

Grants received are recognised in profit or loss within the Statement of Comprehensive Income over the periods in which the related costs for which the grants are intended to compensate are recognised as expenses and when the requirements under the grant agreement have been met. Any grants received for which the requirements under the grant agreement have not been completed are carried as liabilities until all the conditions have been fulfilled.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### *Interest income*

Interest income is recognised on a time-proportion basis using the effective interest method.

#### **(e) Research and development**

Research costs include direct and directly attributable overhead expenses for drug discovery, research and pre-clinical and clinical trials. Research costs are expensed as incurred.

When a project reaches the stage where it is reasonably certain that future expenditure can be recovered through the process or products produced, development expenditure is recognised as a development asset using the following criteria:

- a product or process is clearly defined and the costs attributable to the product or process can be identified separately and measured reliably;
- the technical feasibility of the product or process can be demonstrated;
- the existence of a market for the product or process can be demonstrated and the Group intends to produce and market the product or process;
- adequate resources exist, or their availability can be reasonably demonstrated to complete the project and market the product or process.

In such cases the asset is amortised from the commencement of commercial production of the product to which it relates on a straight-line basis over the years of expected benefit. Research and development costs are otherwise expensed as incurred.

#### **(f) Income tax**

The income tax expense for the period is the tax payable on the period's taxable income or loss using tax rates enacted or substantively enacted at the reporting date and adjusted by changes in deferred tax assets and liabilities attributable to temporary differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements, and to unused tax losses.

Deferred tax assets and liabilities are recognised for temporary differences at the tax rates expected to apply when the assets are recovered or liabilities are settled, based on those tax rates which are enacted or substantively enacted at the reporting date. The relevant tax rates are applied to the cumulative amounts of deductible and taxable temporary differences to measure the deferred tax asset or liability. An exception is made for certain temporary differences arising from the initial recognition of an asset or a liability. No deferred tax asset or liability is recognised in relation to these temporary differences if they arose in a transaction, other than a business combination, that at the time of the transaction did not affect either accounting profit or taxable profit or loss.

Deferred tax assets are recognised for deductible temporary differences and unused tax losses only if it is probable that future taxable amounts will be available to utilise those temporary differences and losses.

Current and deferred tax balances attributable to amounts recognised directly in equity are also recognised directly in equity.

#### **(g) Impairment of non-financial assets**

Assets that have an indefinite useful life are not subject to amortisation and are tested annually for impairment. All non-financial assets are also reviewed whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. The carrying amount of a long-lived asset is considered impaired when the recoverable amount from such asset is less than its carrying value. In that event, a loss is recognised in the Statement of Comprehensive Income based on the amount by which the carrying amount exceeds the fair value less costs of disposal and value in use of the long-lived asset. Fair market value is determined using the anticipated cash flows discounted at a rate commensurate with the risk involved.

#### **(h) Goods and services tax (GST)**

The financial statements have been prepared so that all components are presented exclusive of GST. All items in the statement of financial position are presented net of GST, with the exception of receivables and payables, which include GST invoiced.

#### **(i) Cash and cash equivalents**

Cash and cash equivalents comprises cash and demand deposits held with established financial institutions and highly liquid investments, which have maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

#### **(j) Trade and other receivables**

The Group makes use of a simplified approach in accounting for trade and other receivables and records the loss allowance as lifetime expected credit losses. These are the expected shortfalls in contractual cash flows, considering the potential for default at any point during the life of the financial instrument. In calculating, the Group assesses trade receivables on an individual basis, and uses its historical experience, external indicators and forward-looking information to calculate the expected credit losses.

#### **(k) Property, plant and equipment**

Property, plant and equipment are stated at historical cost less depreciation. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the Statement of Comprehensive Income during the financial period in which they are incurred.

Depreciation is determined principally using the straight-line method to allocate their cost, net of their residual values, over their estimated useful lives, as follows:

Scientific equipment	4 years
Computer equipment	2-10 years
Office furniture, fixtures & fittings	3-4 years

#### (l) Intangible assets

##### *Intellectual property*

Costs in relation to protection and maintenance of intellectual property are expensed as incurred unless the project has yet to be recognised as commenced, in which case the expense is deferred and recognised as contract work in progress until the revenues and costs associated with the project are recognised.

Acquired patents, trademarks and licences have finite useful lives and are carried at cost less accumulated amortisation and impairment losses. Amortisation is calculated using the straight line method to allocate the cost over the anticipated useful lives, which are aligned with the unexpired patent term or agreement over trademarks and licences.

##### *Acquired software*

Acquired software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software. These costs are amortised over their estimated useful lives.

#### (m) Employee benefits

##### *Wages and salaries, annual leave, long service leave and superannuation*

Liabilities for wages and salaries, bonuses, annual leave, long service leave and superannuation expected to be settled within 12 months of the reporting date are recognised in accrued liabilities in respect of employees' services up to the reporting date and are measured at the amounts expected to be paid when the liabilities are settled. Liabilities for non-accumulating personal leave are recognised when the leave is taken and measured at the rates paid or payable.

Contributions are made by the Group to employee superannuation funds and are charged as expenses when the obligation to pay them arises.

##### *Share-based payments*

Neuren has operated a loan funded share plan and equity performance rights plan. Both plans are accounted for as share options and the loan is not recognised as an asset. The fair value of the services received in exchange for the grant of the options or shares is recognised as an expense with a corresponding increase in other reserve equity over the vesting period. The total amount to be expensed over the vesting period is determined by reference to the fair value of the options or shares at grant date. At each reporting date, except for options that are subject to a market condition for vesting, the Company revises its estimates of the number of options that are expected to vest and become exercisable. It recognises the impact of the revision of original estimates, if any, in the Statement of Comprehensive Income, and a corresponding adjustment to equity over the remaining vesting period.

When options are exercised, the proceeds received net of any directly attributable transaction costs are credited to share capital.

#### (n) Share issue costs

Costs associated with the issue of new shares which are recognised in shareholders' equity are treated as a reduction of the amount collected per share.

#### (o) Financial instruments

##### *Recognition and derecognition*

Financial assets and financial liabilities are recognised when the Group becomes a party to the contractual provisions of the financial instrument.

Financial assets are derecognised when the contractual rights to the cash flows from the financial asset expire, or when the financial asset and substantially all the risks and rewards are transferred.

A financial liability is derecognised when it is extinguished, discharged, cancelled or expires.

##### *Classification and initial measurement of financial assets*

Except for those trade receivables that do not contain a significant financing component and are measured at the transaction price in accordance with NZ IFRS 15 'Revenue from contracts with customers', all financial assets are initially measured at fair value adjusted for transaction costs (where applicable).

Financial assets, other than those designated and effective as hedging instruments, are classified into the following categories:

- amortised cost
- fair value through profit or loss (FVTPL)
- fair value through other comprehensive income (FVOCI).

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

In the periods presented the corporation does not have any financial assets categorised as FVTPL or FVOCI.

The classification is determined by both:

- the entity's business model for managing the financial asset
- the contractual cash flow characteristics of the financial asset.

All income and expenses relating to financial assets that are recognised in profit or loss are presented within finance costs, finance income or other financial items, except for impairment of trade receivables which is presented within other expenses.

#### *Subsequent measurement of financial assets*

##### *Financial assets at amortised cost*

Financial assets are measured at amortised cost if the assets meet the following conditions (and are not designated as FVTPL):

- they are held within a business model whose objective is to hold the financial assets and collect its contractual cash flows
- the contractual terms of the financial assets give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding

After initial recognition, these are measured at amortised cost using the effective interest method.

Discounting is omitted where the effect of discounting is immaterial. The Group's cash and cash equivalents, trade and most other receivables fall into this category of financial instruments.

### (p) Financial liabilities

The Group's financial liabilities include trade and other payables. Financial liabilities are initially measured at fair value, and, where applicable, adjusted for transaction costs.

Subsequently, financial liabilities are measured at amortised cost using the effective interest method.

### (q) Earnings per share

Basic and diluted earnings per share are calculated by dividing the profit attributable to equity holders of the Company by the weighted average number of ordinary shares outstanding during the period.

### 3. SEGMENT INFORMATION

The Group operates as a single operating segment and internal management reporting systems present financial information as a single segment. The segment derives its revenue and incurs expenses through the development of pharmaceutical products. Grant income arises from the Australian R&D Tax Incentive and revenue from licence agreements is derived from the United States. The Board of the Company has been identified as the chief operating decision maker. The Board assesses the financial performance and position of the group, and makes strategic decisions.



## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 4. EXPENSES

	2021 \$'000	2020 \$'000
<b>Loss / (Profit) before income tax includes the following expenses:</b>		
<b>Depreciation – property, plant and equipment</b>		
Computer equipment	8	6
Total depreciation	8	6
<b>Remuneration of auditors</b>		
Audit and review of financial statements (Grant Thornton NZ)	66	58
Total remuneration of auditors	66	58
<b>Employee benefits expense</b>		
Short-term benefits	1,093	974
Post-employment benefits	91	76
Other employee benefits	26	35
Share based payments	611	394
Total employee benefits expenses	1,821	1,479
<b>Directors' compensation</b>		
Short-term benefits	498	423
Post-employment benefits	23	10
Share based payments	229	–
Total Directors' compensation	750	433

Jon Pilcher is included in Employee benefits until 14 June 2021, when he was appointed Managing Director. His remuneration post 14 June 2021 is included in Director's compensation.

### 5. INCOME TAX

	2021 \$'000	2020 \$'000
<b>Income tax</b>		
Current tax	–	–
Deferred tax	–	–
	–	–
<b>Numerical reconciliation of income tax to prima facie tax receivable:</b>		
(Loss) / Profit before income tax	(7,794)	(9,193)
Tax at applicable rates 26.0% (2020: 27.5%)	(2,026)	(2,528)
Non-taxable Australian R&D tax incentive income	(831)	(197)
Non deductible expenses for R&D incentive	1,973	454
Deductible temporary differences and tax losses for which no deferred tax asset was recognised	884	2,271
<b>Income tax</b>	–	–
Gross tax losses for which no deferred tax asset has been recognised <sup>(a)</sup>	110,750	107,065

(a) Of these gross tax losses, \$63.3 million (2020: \$62.9 million) relates to New Zealand tax losses, which are unlikely to be utilised unless future taxable income is generated in New Zealand. The movement is due to the New Zealand tax losses being translated at the closing foreign exchange rate at each reporting date.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 6. EARNINGS PER SHARE

Basic earnings per share is calculated by dividing the profit for the year attributable to the equity holders of the company by the weighted average number of ordinary shares on issue during the year excluding shares held as treasury stock.

Diluted earnings per share is calculated by dividing the profit for the year attributable to the equity holders of the company by the weighted average number of shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on conversion of any dilutive potential ordinary shares into ordinary shares.

The dilutive impact of loan funded shares has not been included in the weighted average number of ordinary shares for the purposes of calculating diluted earnings per share, as it does not meet the requirements for inclusion in NZ IAS 33.

	2021	2020
Loss after income tax attributable to equity holders (basic) - (\$'000)	(7,794)	(9,193)
Weighted average shares outstanding (basic) - (No.)	117,770,052	107,057,317
Basic loss per share	(\$0.066)	(\$0.086)

Loss after income tax attributable to equity holders (diluted) - (\$'000)	(7,794)	(9,193)
Weighted average shares outstanding (diluted) - (No.)	118,524,002	107,057,317
Diluted loss per share	(\$0.066)	(\$0.086)

### 7. CASH AND CASH EQUIVALENTS

	2021 \$'000	2020 \$'000
Cash	6,912	229
Demand and short-term deposits	29,871	23,959
	36,783	24,188

### 8. TRADE AND OTHER RECEIVABLES

	2021 \$'000	2020 \$'000
Trade receivables	7	-
Other receivables	21	22
Interest receivables	3	16
Prepayments	1,837	-
Australian R&D tax incentive	1,393	717
	3,261	755

The Group applies the simplified model of recognising lifetime expected credit losses for all trade receivables as these items do not have a significant financing component.

In measuring the expected credit losses, the trade receivables have been assessed on an individual basis due to the limited number of receivables.

The expected loss rates are based on the payment profile of the individual receivable and other transactions with that debtor over the past 12 months before 31 December 2021 as well as the corresponding historical credit losses during that period.

Trade receivables are written off (i.e. de-recognised) when there is no reasonable expectation of recovery. Failure to make payments within 180 days from the invoice date and failure to engage with the Group on alternative payment arrangements amongst others are considered indicators of no reasonable expectation of recovery. No credit losses have been determined for the current year (2020: nil).

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 9. TRADE AND OTHER PAYABLES

	2021 \$'000	2020 \$'000
Trade payables	245	167
Accruals	209	323
Employee benefits	349	263
	803	753

Trade payables and accruals relate to operating expenses, primarily research and development expenses. Trade payables comprise amounts invoiced prior to the reporting date and accruals comprise the value of work done but not invoiced at each reporting date.

### 10. SHARE CAPITAL

	2021 Shares	2020 Shares	2021 \$'000	2020 \$'000
Issued Share Capital				
Ordinary shares on issue at beginning of year	117,608,108	102,668,413	145,567	126,426
Shares issued under Loan Funded Share Plan	–	3,000,000	–	–
Shares bought back under Loan Funded Share Plan	–	(2,500,000)	–	–
Shares issued in private placement	9,756,098	14,285,723	20,000	20,000
Share issued in Share Purchase Plan	1,601,470	153,972	3,281	216
Share issue expenses - issue costs	–	–	(1,270)	(1,075)
	128,965,676	117,608,108	167,578	145,567

In September 2021, the Group issued 9,756,098 fully paid ordinary shares at an issue price of \$2.05 per share in a placement to institutional in Australia and overseas. In October 2021, the Group issued 1,601,470 fully paid ordinary shares at an issue price of \$2.05 in the Share Purchase Plan (SPP). The issue price of \$2.05 per share for the placement and the SPP represented a discount of 8.9% to the last closing price of \$2.25 on 9 September 2021.

At 31 December 2021 3.0 million ordinary shares (31 December 2020: 3.0 million ordinary shares) were held as treasury stock in respect of the Loan Funded Share Plan described below.

#### Ordinary Shares

The ordinary shares have no par value and all ordinary shares are fully paid-up and rank equally as to dividends and liquidation, with one vote attached to each fully paid ordinary share.

#### Share based payments

No securities were issued under any share based payment plans in 2021 or 2020. There were no equity-settled share based payments expensed in the Statement of Comprehensive Income in 2021 or 2020.

#### Loan funded shares

The Company has a Loan Funded Share Plan to support the achievement of the Company's business strategy by linking executive reward to improvements in the financial performance of the Company and aligning the interests of executives with shareholders. Under the Loan Funded Share Plan, loan funded shares may be offered to employees or consultants ("Participants"). The Company issues new ordinary shares, which are placed in a trust to hold the shares on behalf of the Participant. The trustee issues a limited-recourse, interest-free loan to the participant, which is equal to the number of shares multiplied by the issue price. A limited-recourse loan means that the repayment amount will be the lesser of the outstanding loan and the market value of the shares that are subject to the loan. The trustee continues to hold the shares on behalf of the Participant until all vesting conditions have been satisfied and the Participant chooses to settle the loan, at which point ownership of the shares is transferred from the trust to the Participant. Any dividends paid by the Company while the shares are held by the trust are applied as repayment of the loan at the after-tax value of the dividend. On request by the participant, the Company may dispose of, or buy back, vested shares and utilise the proceeds to settle the outstanding loan. The directors may apply vesting conditions to be satisfied before the shares can be transferred to the Participant. Before the loan can be given, the New Zealand Companies Act requires the Company to disclose to shareholders the provision of financial assistance to the Participant. The maximum loan term is 5 years.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 10. SHARE CAPITAL (CONTINUED)

All loan funded shares under the plan during the year ended 31 December 2021 are subject to the following vesting conditions:

- i. 40% of the Loan Funded Shares shall vest on acceptance by the US Food and Drug Administration of the filing of a New Drug Application for Trofinetide; and
- ii. 40% of the Loan Funded Shares shall vest when the Company determines to progress NNZ-2591 to a Phase 2b or Phase 3 clinical trial following a positive Phase 2 clinical trial outcome, or executes a partnering transaction for NNZ-2591;
- iii. 20% of the Loan Funded Shares shall vest when the Company executes a partnering transaction for trofinetide outside North America, or submits a Marketing Authorisation Application for trofinetide in the European Union, the United Kingdom, or Japan.

Each of these Vesting Conditions shall be tested separately from the other Vesting Conditions.

The estimated fair value of the shares has been determined using the Black-Scholes valuation model. The significant inputs into the model were the share price on date of valuation, the estimated future volatility of the share price, a dividend yield of 0%, an expected life of 5 years, and an annual risk-free interest rate of 0.4%. The estimated future volatility of the share price was derived by analysing the historic volatility of the share price during a relevant period.

Movements in the number of Loan Funded Shares were as follows:

	Loan Funded Shares	Weighted Average Exercise Price	Exercisable	Weighted Average Exercise Price
Outstanding at 31 December 2019	1,000,000	\$1.76	–	–
Expired and bought back	(1,000,000)	\$1.76	–	–
Issued	3,000,000	\$1.84	–	–
Outstanding at 31 December 2020	3,000,000	\$1.84	–	–
Expired and bought back	–	–	–	–
Issued	–	–	–	–
Outstanding at 31 December 2021	3,000,000	\$1.84	–	–

The exercise price for 3.0 million unvested Loan Funded Shares is \$1.84 per share.

### 11. SUBSIDIARIES

#### (a) Investment in subsidiaries

The consolidated financial statements incorporate the assets, liabilities and results of the following subsidiaries in accordance with the accounting policy described in Note 2(b).

Name of entity	Date of incorporation	Principle activities	Interest held	Domicile
Neuren Pharmaceuticals Inc.	20-Aug-02	Development services	100%	USA
Neuren Pharmaceuticals (Australia) Pty Ltd	9-Nov-06	Dormant	100%	AUS
Neuren Trustee Limited	29-May-13	Holds loan funded shares	100%	NZ

All subsidiaries have a reporting date of 31 December.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 12. COMMITMENTS AND CONTINGENCIES

#### (a) Legal claims

The Group had no significant legal matter contingencies as at 31 December 2021 or at 31 December 2020.

#### (b) Commitments

The Group was not committed to the purchase of any property, plant or equipment or intangible assets as at 31 December 2021 (2020: nil).

At 31 December 2021, the Group had commitments under product development contracts amounting to approximately \$6.1 million, comprising approximately US\$3.3 million, GBP 0.3 million and AU \$0.9 million. At 31 December 2020, the Group had commitments under product development contracts amounting to approximately \$5.0 million, comprising approximately US\$2.6 million, GBP 0.4 million and AU \$0.9 million.

#### (c) Contingent liabilities

The Group had no contingent liabilities at 31 December 2021 or at 31 December 2020 that require disclosure.

### 13. RELATED PARTY TRANSACTIONS

#### (a) Key Management Personnel

The Key Management Personnel of the Group (KMP) include the directors of the Company and direct reports to the Managing Director. Compensation for KMP was as follows:

	2021 \$'000	2020 \$'000
Short-term benefits	1,340	1,349
Post-employment benefits	83	73
Other long-term benefits	26	35
Share based payment compensation	840	394
	2,289	1,851

#### (b) Subsidiaries

The ultimate parent company in the Group is Neuren Pharmaceuticals Limited ("Parent"). The Parent funds the activities of the subsidiaries throughout the year as needed. Interests in and amounts due from subsidiaries are set out in Note 11. All amounts due between entities in the Group are payable on demand and bear no interest.

### 14. EVENTS AFTER REPORTING DATE

As at the date of these consolidated financial statements authorised for issue, there are no events arising since 31 December 2021 that require disclosure.

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

## 15. FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

### (a) Categories of financial instruments

		At amortised cost		At fair value through profit or loss	Total \$'000
		Floating Interest Rate \$'000	Non-Interest Bearing \$'000	Non-Interest Bearing \$'000	
<b>Financial assets</b>					
<b>2021</b>					
Cash and cash equivalents	7	36,783	–	–	36,783
Trade and other receivables	8	–	30	–	30
Total financial assets		36,783	30	–	36,813
<b>2020</b>					
Cash and cash equivalents	7	24,188	–	–	24,188
Trade and other receivables	8	–	37	–	37
Total financial assets		24,188	37	–	24,225
<b>Financial liabilities</b>					
<b>2021</b>					
<b>\$'000</b>					
Amortised cost – Non-Interest Bearing:					
Trade and other payables			9	454	490
Total financial liabilities				454	490
<b>2020</b>					
<b>\$'000</b>					

At 31 December 2021, the reporting value of all financial instruments approximated to the fair value.

### (b) Risk management

The Group is subject to a number of financial risks which arise as a result of its activities.

#### Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates and interest rates will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return.

#### Currency risk

During the normal course of business the Group enters into contracts with overseas customers or suppliers or consultants that are denominated in foreign currency. As a result of these transactions there is exposure to fluctuations in foreign exchange rates. The Company also has a net investment in a foreign operation, whose net assets are exposed to foreign currency translation risk.

The principle currency risk faced by the business is the exchange rate between the Australian dollar and the US dollar. The Group holds cash denominated in US dollars and Australian dollars and has material expenditure in each of these currencies. Where possible, the Group matches foreign currency income and foreign currency expenditure as a natural hedge, holding foreign currency cash to facilitate this natural hedge. When foreign currency expenditure exceeds foreign currency revenue and foreign currency cash, the group purchases foreign currency to meet anticipated requirements under spot and forward contracts. The Group does not designate formal hedges. At 31 December 2021, there were no forward contracts outstanding (2020: None).

During the year, the US dollar fluctuated against the Australian dollar. A foreign exchange gain of \$398,000 is included in results for the year ended 31 December 2021 (2020: loss \$631,000). The majority of the gain relates to gains on the translation for reporting purposes of the Group's US dollar cash reserves into Australian dollars.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 15. FINANCIAL INSTRUMENTS AND RISK MANAGEMENT (CONTINUED)

The carrying amounts of US dollar denominated financial assets and liabilities are as follows:

	2021 \$'000	2020 \$'000
<b>Assets</b>		
US dollars	6,905	8,686
<b>Liabilities</b>		
US dollars	38	46

An increase of 10% in the cross rate of the US dollar against the Australian dollar as at the reporting date would have increased the consolidated loss after income tax by \$624,000 (2020: \$785,000). A decrease of 10% in the cross rate of the US dollar against the Australian dollar as at the reporting date would have decreased the consolidated loss after income tax by \$763,000 (2020: \$960,000).

#### **Interest rate risk**

The Group is exposed to changes in market interest rates as entities in the Group hold cash and cash equivalents.

The effective interest rates on financial assets are as follows:

	2021 \$'000	2020 \$'000
<b>Financial Assets</b>		
Cash and cash equivalents		
Australian dollar cash deposits	29,888	15,502
Australian dollar interest rate	0.17%	0.48%
US dollar cash deposits	6,898	8,686
US dollar interest rate	-%	0.07%

The Company and Group do not have any interest-bearing financial liabilities. Trade and other receivables and payables do not bear interest and are not interest rate sensitive.

A 10% change in average market interest rates would have changed reported loss after tax by approximately \$5,100 (2020: \$8,000).

#### **Credit risk**

The Group incurs credit risk from transactions with financial institutions. The total credit risk on cash and cash equivalents, which have been recognised in the statement of financial position, is the carrying amount. The Company and its subsidiaries do not retain any collateral or security to support transactions with financial institutions. Cash and cash equivalents are held and transacted with National Australia Bank, Western Union and Primis bank.

#### **Liquidity risk**

The Group's financial liabilities, comprising trade and other payables, are generally repayable within 1 – 2 months. The maturity and availability of financial assets, comprising cash and cash equivalents and trade and other receivables, are monitored and managed to ensure financial liabilities can be repaid when due.

#### **Capital risk**

The Group manages its capital, which is its equity, to ensure that the Group entities are able to meet their estimated commitments as they fall due. In this regard, the Company raised additional equity capital during 2021, as described in Note 10. Capital risk is impacted by the material uncertainties described in Note 1.

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

CONTINUED

### 16. CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the next financial year are as discussed below.

The Group's research and development activities are eligible under the Australian R&D Tax Incentive. The Group has assessed these activities and expenditure to determine which are likely to be eligible under the incentive scheme. For the period to 31 December 2021 the Group has recorded other revenue of \$3.2 million (2020: \$0.7 million).

The Group has assessed that all research and development expenditure to date does not meet the requirements for capitalisation as an intangible asset because it is not yet probable that the expected future economic benefits that are attributable to the asset will flow. The Group's current assessment is that future expenditure will not meet that requirement prior to the approval of a New Drug Application by the US Food and Drug Administration.

The Group is subject to income taxes in Australia because it is domiciled in that country. There are transactions and calculations undertaken during the ordinary course of business for which the ultimate tax determination may be uncertain. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred tax provisions in the period in which such determination is made.

#### Loan Funded Shares

The Group measures the fair value of loan funded shares with employees by reference to the fair value of the equity instruments at the date at which they are granted. The estimated fair value of the shares is determined using the Black-Scholes valuation model, taking into account the terms and conditions upon which the instruments were granted. Some judgements are made on the inputs into the valuation model, including the expected life and volatility.





## Independent Auditor's Report

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To the Shareholders of Neuren Pharmaceuticals Limited

### Report on the Audit of the Consolidated Financial Statements

#### Opinion

We have audited the consolidated financial statements of Neuren Pharmaceuticals Limited (the "Company") and its subsidiaries (the "Group") on pages 30 to 46 which comprise the consolidated statement of financial position as at 31 December 2021, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Group as at 31 December 2021 and of its financial performance and cash flows for the year then ended in accordance with the New Zealand equivalents to International Financial Reporting Standards (NZ IFRS) issued by the New Zealand Accounting Standards Board.

#### Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (New Zealand) (ISAs (NZ)) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with Professional and Ethical Standard 1 *International Code of Ethics for Assurance Practitioners (including International Independence Standards) (New Zealand)* issued by the New Zealand Auditing and Assurance Standards Board and the International Ethics Standards Board for Accountants' *International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code)*, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other than in our capacity as auditor we have no relationship with, or interests in, the Group.

#### Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current year. We have determined that there are no key audit matters to communicate in our report.



#### **Information Other than the Consolidated Financial Statements and Auditor's Report thereon**

The Directors are responsible for the other information. The other information comprises the information included in the Directors' Report (but does not include the consolidated financial statements and our auditor's report thereon), which we obtained prior to the date of this auditor's report and the annual report which is expected to be made available to us after that date.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connections with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements, or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

#### **Directors' responsibilities for the Consolidated Financial Statements**

The Directors are responsible on behalf of the Group for the preparation and fair presentation of the consolidated financial statements in accordance with New Zealand equivalents to International Financial Reporting Standards issued by the New Zealand Accounting Standards Board, and for such internal control as the Directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors are responsible on behalf of the Group for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

#### **Auditor's responsibilities for the Audit of the Consolidated Financial Statements**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (NZ) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of the auditor's responsibilities for the audit of the consolidated financial statements is located on the External Reporting Board's website at: <https://www.xrb.govt.nz/standards/assurance-standards/auditing-standards/auditors-responsibilities/audit-report-1/>

*Grant Thornton*

**Grant Thornton New Zealand Audit Limited**

**R Campbell  
Auckland**

**23 February 2022**

## ADDITIONAL INFORMATION

### EQUITY SECURITIES HELD BY DIRECTORS AS AT 23 FEBRUARY 2022

Director	Interests in Ordinary Shares		Interests in Loan Funded Shares
	Direct	Indirect	Indirect
Trevor Scott	1,000,000	2,589,784	–
Dianne Angus	30,000	–	–
Patrick Davies	–	220,940	–
Jenny Harry	–	29,663	–
Jonathan Pilcher <sup>1</sup>	–	398,207	1,500,000

<sup>1</sup> Jon Pilcher has an interest in 1.5 million Loan Funded Shares held by Neuren Trustee Limited. As detailed in Note 10 to the Financial Statements, the Loan Funded Shares are subject to vesting conditions and repayment of a loan amounting to \$1.84 per share before they can be transferred to Jon.

### DIRECTORS OF SUBSIDIARY COMPANIES AT 31 DECEMBER 2021

	Jon Pilcher	Larry Glass	Trevor Scott
Neuren Pharmaceuticals Inc.	√	√	
Neuren Pharmaceuticals (Australia) Pty Ltd	√	√	
Neuren Trustee Limited			√

### AUSTRALIAN STOCK EXCHANGE DISCLOSURES

Neuren Pharmaceuticals Limited is incorporated in New Zealand under the Companies Act 1993.

The Company is not subject to Chapters 6, 6A, 6B and 6C of the Corporations Act, Australia, dealing with the acquisition of shares (such as substantial holdings and takeovers).

Limitations on the acquisition of shares are imposed under New Zealand law are as follows:

- (a) In general, securities in the Company are freely transferable and the only significant restrictions or limitations in relation to the acquisition of securities are those imposed by New Zealand laws relating to takeovers and overseas investment.
- (b) The New Zealand Takeovers Code creates a general rule under which the acquisition of 20% or more of the voting rights in the Company or the increase of an existing holding of 20% or more of the voting rights of the Company can only occur in certain permitted ways. These include a full takeover offer in accordance with the Takeovers Code, a partial takeover in accordance with the Takeovers Code, an acquisition approved by an ordinary resolution, an allotment approved by an ordinary resolution, a creeping acquisition (in certain circumstances), or compulsory acquisition of a shareholder holding 90% or more of the shares.
- (c) The New Zealand Overseas Investment Act 2005 and Overseas Investment Regulations 2005 (New Zealand) regulate certain investments in New Zealand by overseas interests. In general terms, the consent of the New Zealand Overseas Investment Office may be required where an 'overseas person' acquires shares in the Company that amount to 25% or more of the shares issued by the Company, or if the overseas person already holds 25% or more, the acquisition increases that holding.

## ADDITIONAL INFORMATION

CONTINUED

### EQUITY SECURITIES INFORMATION

The Company has only one class of shares, being ordinary shares. Each ordinary share is entitled to one vote when a poll is called; otherwise on a show of hands at a shareholder meeting every member present in person or by proxy has one vote. There are no securities subject to escrow and there is no current on-market buy-back of securities.

The following information is based on share registry information processed up to and including 31 March 2022.

The number of ordinary shareholdings held in less than marketable parcels at 31 March 2022 was 405, holding 10,305 ordinary shares.

### DISTRIBUTION OF SECURITY HOLDERS

Ordinary shares

Size of holding	Number of ordinary shares	%	Number of holders	%
100,001 and Over	90,071,999	71.51	142	2.59
10,001 to 100,000	26,035,247	20.67	878	16.03
5,001 to 10,000	4,316,199	3.43	573	10.46
1,001 to 5,000	4,619,890	3.67	1,732	31.62
1 to 1,000	922,341	0.73	2,152	39.29
<b>Total</b>	<b>125,965,676</b>	<b>100.00</b>	<b>5,477</b>	<b>100.00</b>

### SUBSTANTIAL SECURITY HOLDERS

The following have filed substantial holding notifications:

	Number held	Percentage
Milford Asset Management Limited	6,733,814	5.35%

Substantial holdings are based on the last notice lodged on the ASX.

## ADDITIONAL INFORMATION

CONTINUED

### Twenty largest holders of ordinary shares

	Number of ordinary shares	% of issued share capital
HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED-GSCO ECA	14,473,054	11.49
NATIONAL NOMINEES LIMITED	12,475,013	9.90
CITICORP NOMINEES PTY LIMITED	9,417,997	7.48
CAMERON RICHARD PTY LTD	5,432,260	4.31
STUART ANDREW PTY LTD	2,667,146	2.12
LINWIERIK SUPER PTY LTD	2,639,643	2.10
HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	2,592,919	2.06
ESSEX CASTLE LIMITED	2,367,144	1.88
SMITHLEY SUPER PTY LTD	2,148,000	1.71
HOBSON WEALTH CUSTODIANS LTD	1,595,901	1.27
MXB INVESTMENTS LLC	1,330,000	1.06
FIRST COLBYCO PTY LTD	1,032,854	0.82
SHARESIES NOMINEE LIMITED	1,011,875	0.80
DR TREVOR SCOTT	1,000,000	0.79
DR ROBIN LANCE CONGREVE	991,637	0.79
J P MORGAN NOMINEES AUSTRALIA PTY LIMITED	926,986	0.74
BNP PARIBAS NOMS PTY LTD	913,170	0.72
HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED - A/C 2	821,336	0.65
10 BOLIVIANOS PTY LTD	754,116	0.60
BNP PARIBAS NOMINEES PTY LTD SIX SIS LTD	631,525	0.50
<b>Total</b>	<b>65,222,576</b>	<b>51.78</b>
Balance of share register	60,743,100	48.22
<b>Total ordinary shares quoted on ASX</b>	<b>125,965,676</b>	<b>100.00</b>
Unquoted loan funded shares held by Neuren Trustee Limited <sup>1</sup>	3,000,000	
<b>Total issued ordinary shares</b>	<b>128,965,676</b>	

<sup>1</sup> Loan Funded Share Plan described in Note 10 to the Financial Statements.

### UNLISTED SECURITIES

1,450,000 Employee Share Scheme options, with an exercise price of \$3.46 and expiry date of 3 February 2026. There are 4 holders of 100,001 and over.

neuren

pharmaceuticals

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**Share Registry:**

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