

Presentation to Potential Investors and Partners

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This presentation includes forward-looking statements that are subject to risks and uncertainties. Such statements involve known and unknown risks and important factors that may cause the actual results, performance or achievements of Neuren to be materially different from the statements in this presentation.

Actual results could differ materially depending on factors such as the availability of resources, the results of clinical studies, the timing and effects of regulatory actions, the strength of competition and the effectiveness of patent protection



Value proposition

- Solid, diverse drug pipeline with multiple commercialization opportunities
 - 2 molecules in 4 clinical trials for 4 CNS indications in 2007; results in 2008/9
 - Limited competition for drugs in targeted indications
 - Strong preclinical candidates from a proven discovery program
 - 4 out-licensing programs in 2007; ongoing discussions on all 4
- Creative, cost-effective clinical trial program
 - Biologically relevant endpoints; clinically relevant design
 - Leveraging AU/NZ efficiencies to deliver trials with global quality
 - Strong partners: US Army, Metabolic Pharmaceuticals, UCLA Medical Center, National Trauma Research Institute
- Experienced management team
 - Strong clinical, regulatory, scientific, financial management experience
 - Multiple drugs brought to market
 - Established presence in the US

Recent milestones

- Clinical and regulatory
 - Glypromate[®] moved forward to pivotal study following FDA pre IND meeting
 - Glypromate[®] Phase 2a safety/PK study commenced 2005
 - Initiation of NNZ-2566 Phase 1 safety study
 - Completion of Glypromate[®] Phase 2a safety/PK study
 - Completion of FDA Phase 3 preclinical requirements for Glypromate[®]
 - Completion of NNZ-2566 Phase 1a
 - Glypromate[®] Phase 3 IND filed
- Preclinical
 - US Army study results show reduced functional deficit from TBI with NNZ-2566
 - Cancer NNZ-8000 program initiated
 - NNZ-2566 pre-clinical toxicology studies completed for Phase 1
 - NNZ-4921 peripheral neuropathy results positive
 - NNZ-2566 confirmed orally available
 - NNZ-2591 oral program advanced into preclinical development
 - NNZ-2566 results using US Army stroke model joint patent
 - NNZ-2591 in vivo proof of principle in Parkinson's disease model
 - Positive in vivo results with NNZ-8000 in breast cancer model
- Commercial
 - NRP collaboration formalised with Metabolic
 - Collaboration with the US Army Walter Reed Army Institute of Research
 - Two US patents issued covering use of the Glypromate[®] family in Parkinson's Disease

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Pipeline—significant progress in 2007



Near-term value driver: 4 clinical trials in 2007





Significant market opportunities

Multiple applications for both acute and chronic indications

Acute Indications	Chronic Indications	
Stroke	 Alzheimer's Disease 	
 Cardiac Surgery 	 Parkinson's Disease 	
Cardiac Arrest	 Multiple Sclerosis 	
 Traumatic Brain Injury 	 Peripheral Neuropathy 	

Large and growing markets with unmet needs

Indication	Market Size US\$	Effective treatment
Cardiac surgery	\$1.0b	No
Traumatic Brain Injury	\$1.5b	No
Stroke	\$3.5b	No
Parkinson's disease	\$2.0b	Limited
Alzheimer's disease	\$2.5b	Limited
Multiple Sclerosis	\$2.5b	Limited



Four near-term out-licensing opportunities

- NEU has an extensive pipeline as a result of its Right to Own agreement with the University of Auckland
- NEU has focused on developing four product lines such that they are attractive near-term out-licensing opportunities
- Active discussions ongoing for all four programs



Scientific rationale: Targeting secondary brain injury

Based on three scientific hypotheses that are now the generally accepted principles of neuroprotection:

- 1. The brain self-repairs and self-protects
- 2. There is a window of time for brain rescue
- 3. Brain cells die via several mechanisms





Glypromate[®]



Glypromate®

- Drug-like molecule
 - Small molecule (MW=301.3 g/mol)
 - Highly neuroprotective at nM concentrations
 - Readily crosses the blood brain barrier
 - Rapidly cleared from circulation
 - Simple and inexpensive to synthesize
 - Simple and inexpensive formulation
- Preclinical efficacy
 - Global hypoxia-ischemia, focal stroke and MCAO models
 - Wide therapeutic window (100% effect at 7-11 hours)
 - Long term neuroprotection with single, 4-hour infusion
 - Improved histopathological, functional, behavioral outcomes
 - Multiple modes of action protect neurons and astrocytes



- Inhibition of caspase-3 dependent apoptosis
- Inhibition of microglial activation
- Prevention of delayed or secondary necrosis
- Protection of astrocytes and oligodendrocytes as well as neurons
- Preservation of neuronal function



Glypromate Preclinical Safety and Toxicology

- Safety studies
 - No selectivity issues or unwanted secondary pharmacology predicted by wide binding
 - No inhibition of CYP-450 enzymes: low risk of drug-drug interactions
 - No *in vivo* effect on cardiovascular system observed with high i.v. doses
 - Clean result in GLP hERG testing
- Toxicology studies
 - No adverse effects at MFD (700 mg/kg in dogs)
 - No genotoxicity, mutagenicity, clastogenicity, chromosomal aberrations



Glypromate is Neuroprotective After Acute Brain Injury





Long Term Improvements in Functional Recovery

- Improved behavioral outcome
- Improved neurological outcome
- Improved histological outcome



Glypromate[®] 3 mg/kg/h i.v. 1-5 h post-injury (n = 8 per group)

Cognitive impairment in cardiac surgery

- Cost-effective trial
 - Timing of surgery (injury) is known
 - Patients serve as their own control
 - Well-defined endpoint measurement
 - Optimized drug administration
 - Large unmet need; good commercial opportunity
 - Large market (US\$1b)
 - No current therapy first in class
 - Small sales force required
 - Good proxy for stroke

Glypromate® Phase 3 trial

- Glypromate® successfully completed Phase 1 and Phase 2a trials
 - FDA recommended submitting IND for Phase 3
 - Significant time and cost savings
 - Safe and well-tolerated in human trials
 - Dose-dependent effect on S100
- First pivotal Phase 3 study
 - 520 patient multi-site trial in US, AU and NZ; completion within 18 months
 - Lead US clinical sites and global CRO selected
 - ~\$10 million
- Option to license Glypromate® out following first pivotal Phase 3 trial (2008) or take to market



Glypromate Phase 2a in cardiac arrest

- US Army to conduct trial Phase 2 Glypromate[®] to reduce brain injury from cardiac arrest
- Army investigators to submit IND for clinical trial approval
- Glypromate for the indication to be submitted for Orphan Drug and Fast Track designation
- Trial could provide entry point to large market for emergency treatment of cardiac arrest and related conditions
- Estimated Market size is US\$800m
 - Minimal costs to Neuren
 - Neuren retains all rights





NNZ-2566

NNZ-2566 – Traumatic brain injury

- NNZ-2566 is initially being tested for neuroprotection in patients who have experienced Traumatic Brain Injury (TBI)
 - US Army is co-development partner
 - Delivered up to 70% improvement in functional outcomes
 - Focused on non-convulsive seizures as a key endpoint
- Neuren's clinical trial strategy has been developed in collaboration with the US Army and involves two Phase 2 trials:
 - Mild to moderate TBI—memory, attention, depression, safety
 - Severe TBI patients—neurological function, memory, safety



NNZ-2566 is highly neuroprotective



Global HI model; IV administration

MCAO model; subcutaneous administration



NNZ-2566 in a Penetrating Brain Injury Model

Balance Beam Test (Foot Fault Deficits)



WRAIR TBI Model (12-hour infusion)



Attenuation of Non-Convulsive Seizures

	Incidence	Total Time (sec)	Mean Time (sec)	Latency (min)
Vehicle	92%	1277	80.2	75.4
NNZ-2566	60%	555	48.7	208.7
Percent Change	-35%	-56%	-39%	+133%



Non-Convulsive Seizure Time Course







** P < 0.01, ANOVA with Dunnett's post-hoc test. Group sizes: Veh (9), 15 mg/kg (8), 30 mg/kg (8), 60 mg/kg (7)



NNZ-2591

NNZ-2591 – Oral treatment for Parkinson's disease

- Meets all requirements for a CNS drug candidate
 - Safe, non-toxic, crosses into brain, therapeutic window
 - Stable, low cost of goods
- Parkinson's disease: Long-term disease modifying effects as well as short-term
- Enhances memory
- Market position...Parkinson's disease (PD) dementia
 - ~70% PD patients develop dementia
 - Market size US\$1.2b
 - Only one current drug in market



NNZ-2591: Chronic effects in Parkinson's disease



- NNZ-2591 given 2 weeks after striatal lesion
- 1 week treatment prolonged behavioural improvement
- Anti-Parkinsonian effects at low systemic dose

Oral Administration: Cognitive Performance



- Morris water maze study
- Scopolamine-impaired acquisition of spatial memory
- Oral NNZ-2591 (30 mg/kg; daily) completely reversed cognitive impairment induced by scopolamine



NNZ-2591 Oral Administration: Histopathology



Infarct area

NNZ-2591 p.o. at 3 hours post Et-1 induced MCAO

**P<0.01, ANOVA with Dunnett's post hoc test. Group sizes: Vehicle (12), 3mg/kg (11) , 30mg/kg (11)



Commercialization strategy

1. Risk Reduction on three levels

- <u>Science</u>: Safety, crosses blood brain barrier, long time window, manufacturing cost, results in multiple animal models, biological rationale
- <u>Clinical trial strategy</u>: design, endpoints, analytical methods, cost-effectiveness, partners
- <u>Company</u>: 4 clinical trials + 4 out-licensing opportunities with results in 2008/9

2. Neuren understands and focuses on big pharma's requirements

- Unmet needs, large markets, limited competition, US presence, FDA standards
- Cost of goods for Glypromate and NNZ-2566 much less than industry norm

3. Neuren's team has done this many times before

- Extensive experience including significant FDA interaction
- Options available: cost of trials means Neuren is not forced to partner or sell



Investment proposal

- Well-priced
- History of meeting milestones
- Creative, high quality product development plans
- Significant progress in 2007:
 - 4 clinical trials (2 molecules; 4 indications)
 - 4 out-licensing opportunities (4 molecules; 4+ indications)
- Capable, supportive partners
- Low operating costs
- Big pharma, big biotech focus and credentials
- US presence

