Neuren Pharmaceuticals
AGM
28 May 2009

Agenda

1. Chairman's introduction
2. Key achievements in 2008/2009
3. Perseis Therapeutics
4. Glypromate® trial results
5. NNZ-2566
6. Corporate strategy

Key achievements in 2008/09

- **Early completion of Glypromate® trial**
  - Glypromate® trial was completed with 325 patients in December 2009
  - Glypromate® had no observable effect in patients undergoing cardiopulmonary bypass surgery and development has been discontinued
- **NNZ-2566**
  - Additional US Army funding confirmed to support continued clinical development
  - US IND is open and clinical trial sites are being prepared to start recruitment in Q3, 2009
- **Perseis Therapeutics**
  - A company has been established to commercialise Neuren IP in the TFF 1, TFF3 and Growth Hormone fields
- **Operations**
  - Larry Glass to take over as CEO of Neuren Inc and Neuren Pharmaceuticals
  - Parmjot Bains to step down from Co-CEO role in Neuren to manage Perseis Therapeutics
  - Pipeline and IP protection maintained through year


Perseis Therapeutics
Toward A Cure For Breast Cancer

Company Shareholders and Management

Perseis Therapeutics
Toward A Cure For Breast Cancer

- **2 Founding Shareholders**
  - Neuren Pharmaceuticals contribution of the TFF 1, TFF 3 and Growth Hormone IP
  - BCRT providing NZD$1.18M year 1 seed funding
- **CEO Dr Parmjot Bains**

Therapeutic Targets

Perseis Therapeutics
Toward A Cure For Breast Cancer

- **Antibody Therapeutics**
  - Trefoil Factors (TFF 1 and 3) and Growth Hormone are critical regulators of cell functions leading to breast cancer progression
  - Clinically validated targets, expression correlated with disease/outcome
  - Polyclonal antibody proof of principal obtained
  - Monoclonal antibody production is underway

Trefoil Factors 1,3

Perseis Therapeutics
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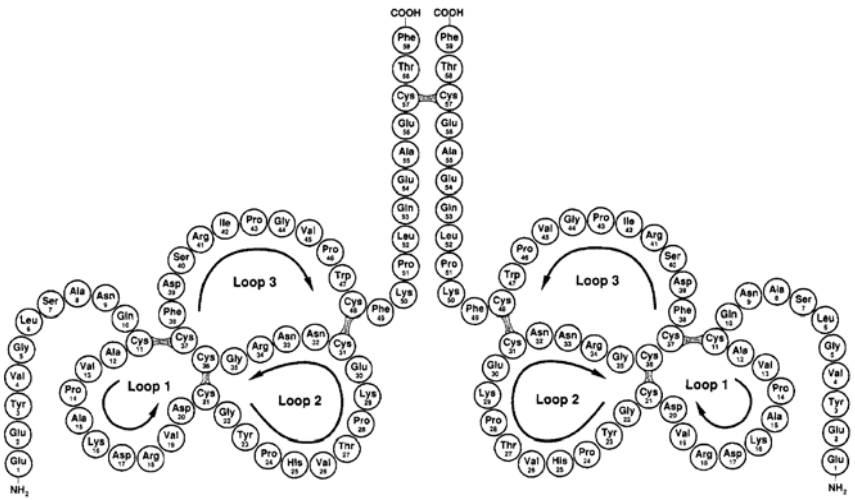
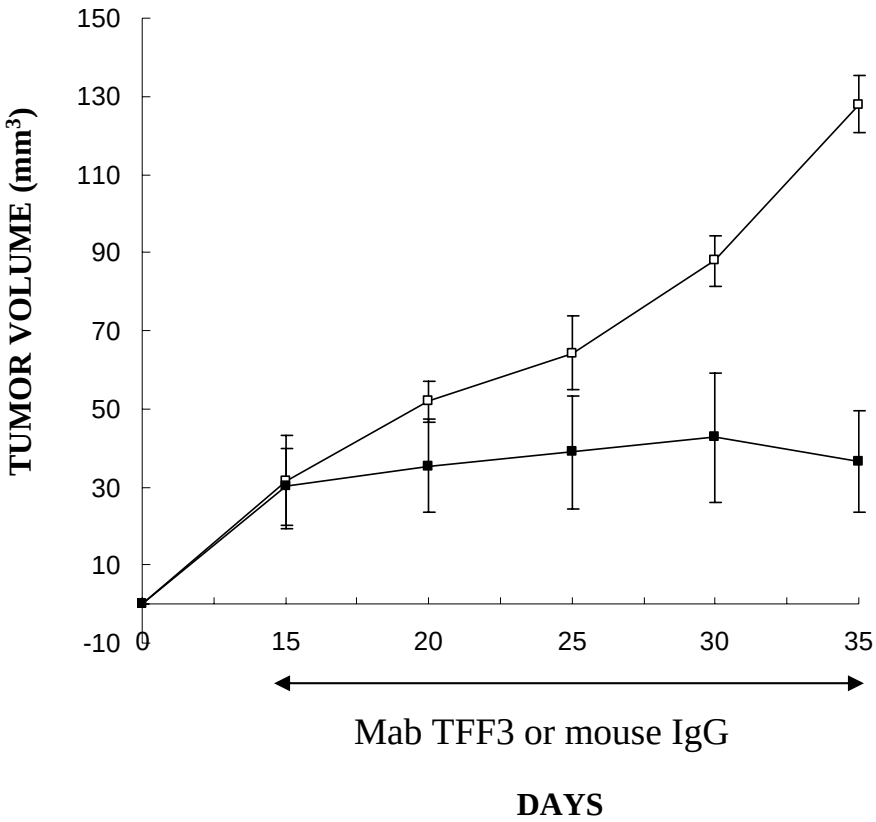
- Members of the trefoil factor family
- Produced as estrogen regulated local growth factors
- Local increased expression in mammary, prostate, gastric, liver and pancreatic carcinoma
- Independent predictive/prognostic factors in carcinoma

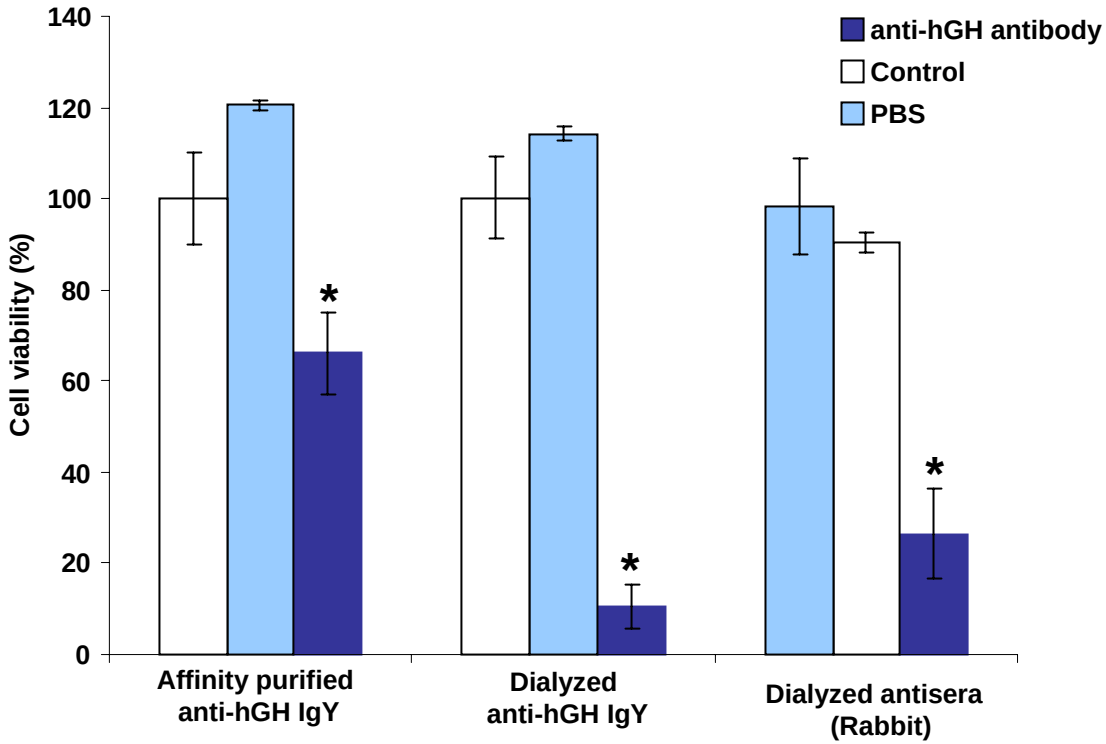


Antibody neutralisation of TFF-3 reduces xenograft tumour volume



Presence of anti-hGH IgY (polyclonal antibody) in media significantly decrease cell viability of cancer cells

Perseis Therapeutics
Toward A Cure For Breast Cancer



p-value <0.001

Development Objectives

Perseis Therapeutics
Toward A Cure For Breast Cancer

Seed Funding (Yr 1)

Milestone

- Monoclonal antibody in-vivo proof of concept at the end of year 1 in the three targets

Outlicensing/ co-development/ external capital

- Phase I/II Human Clinical Signal

Market Potential

Perseis Therapeutics
Toward A Cure For Breast Cancer

- Promising candidates for molecularly targeted cancer therapeutics
  - Oncology third largest pharmaceutical market expected to grow to $60bn in 2010
  - Molecularly targeted drugs (mAbs) are a validated approach (e.g Biogen-Idec/Roche's MabThera, OSI/Genentech/ Roche's Herceptin and Novartis' Glivec)
  - Are likely to constitute a significant proportion of the top 20 anticancer drugs by 2014
  - Avastin 2008 Sales US$2.9Bn with 17% increase year on year
  - Herceptin 2008 Sales US$1.8Bn with a 7% increase year on year
- Targeting a large and unmet need
  - Target up to 90% of breast cancers
  - Addresses critical niche indications, such as tamoxifen resistance
- Opportunities for early partnerships, as confirmed by EU pharma deal for TFF-1

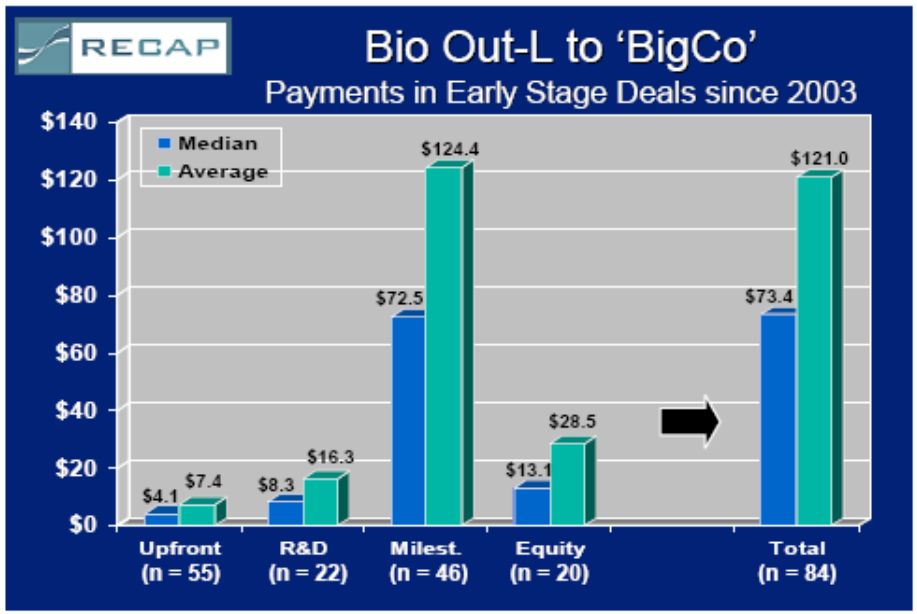
Source: Genentec; http://www.bioportfolio.com/news/DailyUpdates_74.htm

Early Stage Deal Potential

Perseis Therapeutics
Toward A Cure For Breast Cancer

Early Stage Deal Potential

USD



Source: Recap; Genentec; http://www.bioportfolio.com/news/DailyUpdates_74.htm

Glypromate® trial results

- Trial was completed early and on budget in December 2008 with 325 patients recruited
- Only a small proportion of patients (approximately 20%) showed cognitive decline at 12 weeks compared to before surgery and virtually all decline observed was minimal
- Accordingly, there was no significant “injury” for Glypromate® to treat
- To the contrary, approximately 80% of patients in both the placebo and Glypromate® groups actually showed improvement in cognitive function post surgery
- No difference in incidence of adverse events
- Mortality rate was 0.59% for Glypromate® group vs. 3.59% for placebo group (p=0.067; not statistically significant . . . but interesting)
- Glypromate® development has been discontinued in favour of NNZ-2566

NNZ-2566

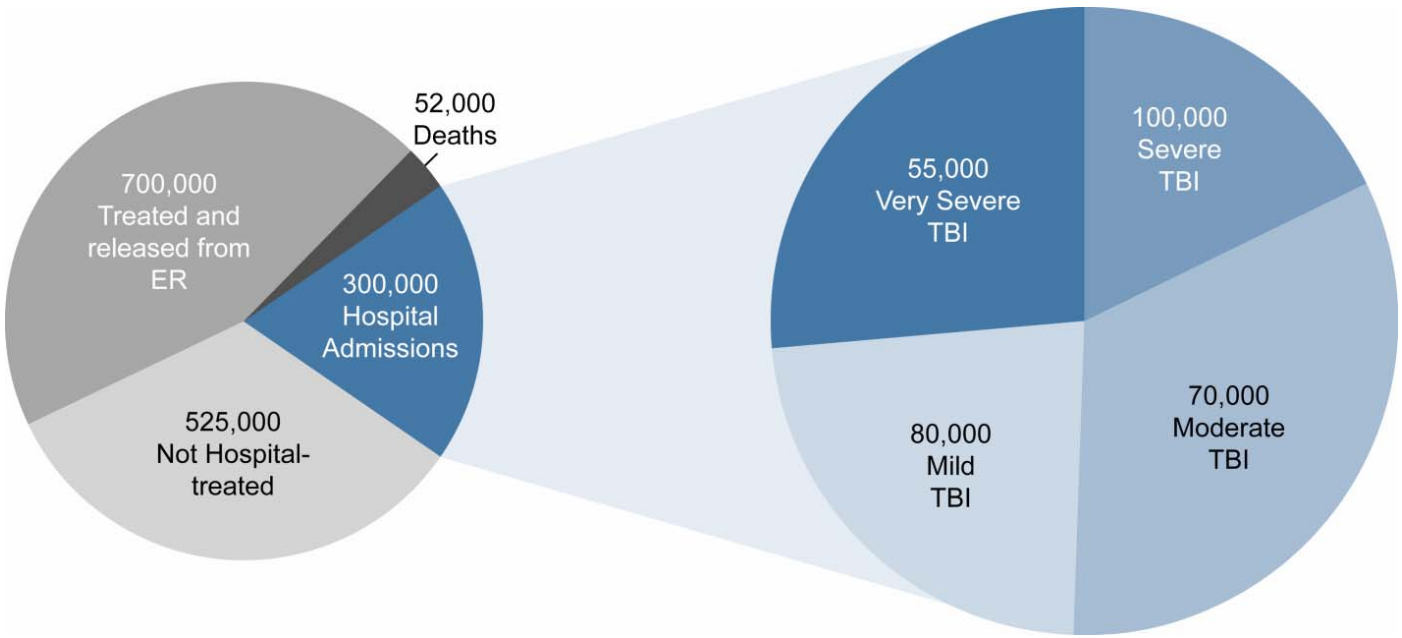
- **NNZ-2566 Phase II trial in Moderate-Severe TBI**
  - Phase II trial (260 moderate to severe TBI patients) to be initiated Q3 2009
  - Interim analysis after 100 patients completed expected Q2 2010
  - Top-line results expected by Q2 2011
  - With strong positive results, single pivotal trial is possible; could commence 2011
  - Possible rolling NDA submission under Fast Track procedures beginning in 2013
- **US IND**
  - IND opened in March 2009
  - Fast Track designation requested; approval considered virtually certain
  - FDA indicated that a single pivotal trial is possible with strong Phase II results
  - FDA requested inclusion of female patients; additional studies required
- **Operational progress**
  - 7 sites confirmed (of 12 total expected); IRB submissions completed
  - CROs selected and contracts negotiated
  - Clinical trials manager on board full time (Geneva Foundation employee)
  - Start up investigators meeting in July
  - Patient enrollment expected to begin in August

NNZ-2566 TBI protocol overview

- **260 acute TBI patients (Glasgow Coma Scale 4-12)**
- **Stratified 2:1 moderate (GCS 9-12) to severe (GCS 4-8)**
- **Randomized 2:1 drug to placebo**
- **Administration of drug within 8 hours of injury**
- **3 cohorts - 20 mg/kg bolus followed by 1, 3 or 6 mg/kg/hr infusion for 72 hrs.**
- **Interim efficacy analysis at 100 patients**
- **Endpoints**
  - Primary: safety
  - Secondary
    - Efficacy: Glasgow Outcome Scale-Extended; ADL; neurocognitive function; mood (all at 30 and 90 days);
    - Biological effect: continuous EEG (non-convulsive seizures, epileptiform discharge); biomarkers of inflammatory, apoptotic and necrotic gene expression; intracranial pressure
    - Pharmacokinetics

Opportunity in TBI

- **1.5 million head injuries per year in the US**
- **850,000 mild-moderate, 155,000 severe**
- **$50b in direct and indirect costs**
- **No approved therapy**
- **Few drugs in development, none for mild-moderate**



Corporate Strategy

- **Focus on NNZ-2566 program, leveraging US Army funding to accelerate development**
- **Aggressively seek project-specific funding (e.g. Perseis, US Army) to enhance shareholder value**
- **Progress other programs only with access to non-dilutive grants and partnerships**
- **Continue lean, quasi-virtual operating structure**

Update on Army Funding

- **Neuren was invited to submit a proposal to the US Army Medical Research & Materiel Command (USAMRMC) including:**
  - Phase II trial in patients with moderate to severe traumatic brain injury (TBI)
  - Proof of concept study in patients with mild TBI
  - Additional studies required to initiate a pivotal trial
    - Segment I and II reproductive toxicology studies
    - Phase I safety/pharmacokinetic study in female volunteers
    - Thorough QTc (cardiovascular safety) study
- **Total funds requested: US$14.2m incremental to $4.5M awarded to date**
- **Proposal was peer reviewed by an independent expert panel from the Army, Veterans Affairs, NIH, academia and industry**
- **Proposal has been approved by the panel and Army program managers**
- **Negotiating final Cooperative Agreement—award expected by early June**
- **Agreement will be in effect from Q2 2009 to Q3 2011**
- **Authorisation received to incur pre-award costs**
- **New funding is in addition to the previously announced US$4.5m award to the Geneva Foundation under the Congressionally Directed Medical Research Program (CDMRP)**
- **Cooperative Agreement plus CDMRP funding expected to cover ~85% of total costs**

- ***Funding is for development up to pivotal trial, not just Phase II***

Anticipated Milestones: 2009 - 2011

- **NNZ-2566**
  - Initiation of Phase II trial Q3 2009
  - Interim analysis after 100 patients completed expected Q2 2010
  - Top-line results expected by Q2 2011
- **Perseis**
  - Proof of principle for monoclonal antibodies by mid 2010
  - Licensing/development of at least one antibody target by mid 2010
- **Motiva**
  - Initiation of Phase IIb trial in post-stroke apathy and depression (grant application pending)
  - Initiation of Phase IIa trial in apathy and depression in Parkinson's disease (grant application pending)
- **NNZ-2591/NRPs**
  - Establish license or collaboration agreement

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