

3 March 2008

## Neuropharm

Year End	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	PE (x)	Yield (%)
06/06	0.0	(0.3)	(6.6)	0.0	N/A	N/A
06/07	0.0	(2.7)	(13.8)	0.0	N/A	N/A
06/08e	0.0	(6.1)	(18.3)	0.0	N/A	N/A
06/09e	0.0	(6.5)	(19.5)	0.0	N/A	N/A

Note: \*PBT and EPS are normalised, excluding goodwill amortisation and exceptional items

### Investment summary: Autism speaks out

Neuropharm's investment case centres squarely on its NPL-2008 novel formulation of fluoxetine for the treatment of autism, which is currently in a Phase III study. The product could be launched in the US in Q4 2009 and has the potential for peak sales approaching \$700m/year. The company is well financed and unusually has sufficient resources to evolve into a speciality pharmaceutical firm focused on CNS conditions, capturing a significant proportion of end-market sales.

#### Critical year for trial results

This year will be critical for trial results with results of the blinded phase of its SOFIA study of NPL-2008 due at the end of Q3. If positive, these should allow a US filing at the end of the year and, assuming a 12-month regulatory review, launch in late 2009.

#### Fragile X, paediatric OCD studies

Results of Phase II studies of development compounds for fragile X syndrome and paediatric obsessive compulsive disorder are due out in Q2 and Q3 2008 respectively and a third product should enter trials for fragile X in Q2 this year.

#### Unusually well financed

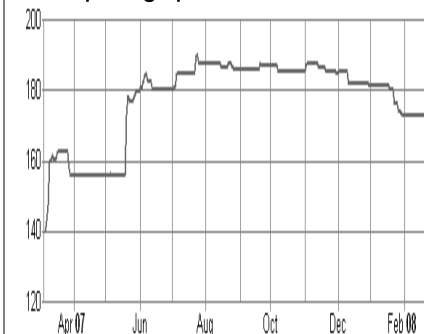
Neuropharm's strong financing position- it is unusually well financed and has a cushion of resources – is over and above that needed to complete the trials, which it can deploy to build up awareness of NPL-2008 in the autism community. Interim results, published late February, show cash of £14.7m.

#### Valuation: rNPV of £250m

Our risk-adjusted NPV is highly sensitive to price and market penetration estimates, which are inherently uncertain, but even a very cautious case suggests a value of just under £250m, a significant multiple of the current EV. Neuropharm's shares have performed well since flotation, especially in the recent market conditions, which we consider to be a reflection of its clear focus and strong balance sheet.

Price 175p  
Market Cap £55m

#### Share price graph



#### Share details

Code NPH  
Listing AIM  
Sector Pharmaceuticals & Biotech  
Shares in issue 31.5m

#### Price

52 week High 191p Low 140p

#### Balance Sheet as at 31 Dec 2007

Debt/Equity (%) N/A  
NAV per share (p) 48  
Net cash (£m) 14.7

#### Business

Neuropharm is an emerging speciality pharmaceutical group focused on the development of medicines for the treatment of neurodevelopmental disorders.

#### Valuation

	2007	2008e	2009e
P/E relative	N/A	N/A	N/A
P/CF	N/A	N/A	N/A
EV/Sales	N/A	N/A	N/A
ROE	N/A	N/A	N/A

#### Revenues by geography

	UK	Europe	US	Other
	100%	0%	0%	0%

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## Investment summary: Autism speaks out

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### Company description: Emerging CNS speciality pharma

Neuropharm is an emerging UK-based speciality pharmaceutical company with a particular focus on CNS conditions affecting children (autism, fragile X syndrome and paediatric obsessive compulsive disorder). The company's principal product is a novel fast-melt formulation of fluoxetine intended for the treatment of autism, although Neuropharm has three other clinical development programmes underway for similar or related conditions. The company raised £20m gross (£18.2m net) in March 2007 in connection with its listing on AIM, giving it sufficient resources to complete the US development, registration and launch of lead product for autism.

### Valuation – cautious NPV of £250m

We have used a risk-adjusted NPV to value Neuropharm, based on our estimates of the probability of success, combined with the likely economic return and cost of capital. This is highly sensitive to tentative estimates of pricing and market penetration of NPL-2008, but even a very cautious case produces a value of just under £250m, a significant multiple of Neuropharm's current value. Biotech companies typically trade a discount to valuations produced in this way, but this seems excessive. This is particularly true, given that Neuropharm has sufficient cash to complete the development programme of fluoxetine in autism and establish a US sales presence.

### Sensitivities – pricing is key, development risk low

The principal sensitivities to the investment case, in our view, relate to specifics of the commercialisation of NPL-2008 for autism. These include the degree to which Neuropharm's orphan drug designation represents, as it expects, a barrier to entry for any specific fluoxetine formulations designed for the autism market, the market penetration versus generic fluoxetine (used off-label) and the success of what will have to be a relatively complex pricing strategy across the wide range of doses expected to be used (c.2mg-18mg). There is little development risk associated with the product, which is highly unusual by biotech standards. Neuropharm's other products make a smaller contribution to NPV in view of their relatively earlier stage of development and therefore sensitivities associated with them – also more typical of biotech products – are less important. Two of the earlier-stage development products are, however, repurposed marketed products addressing orphan conditions and therefore should still command a higher probability of success than the development stage might indicate.

### Financials – strong cash position

Neuropharm's interim results show a net loss of £1.6m for the six months to 30 December. Cash at the period end stood at £14.7m. Our forecasts suggest the company will record an operating loss of around £7m this year, and end the year with around £10.5m of cash, reflecting the investment in the programmes and building up the commercial infrastructure.

## Company description: Autism speaks out

Neuropharm is an emerging speciality pharmaceutical company focused on CNS conditions, in particular, those affecting children (autism, fragile X syndrome and paediatric obsessive compulsive disorder). The company's principal product is a novel formulation of fluoxetine for the treatment of autism, although it has three other development programmes, mostly for similar childhood neurodevelopmental disorders. The company raised £20m gross in March 2007, in connection with its listing on AIM, providing it with sufficient resources to complete the US development programme, register, build up a commercial infrastructure and launch NPL-2008 in late 2009.

### R&D summary

Neuropharm has four programmes in its R&D pipeline, all in the clinical stage. Details are summarised in Exhibit 1.

**Exhibit 1: Neuropharm R&D Summary**

Project	Description	Indication	Development stage/notes
NPL-2008	Zydis fast-melt formulation of fluoxetine	Autism	128-patient, 14-week Phase III study (SOFIA) underway using NPL-2008 2-18mg, flexible titration. Blinded phase readout due at the end of Q3 2008, allowing US submission in Q4 2008. US launch is possible from Q4 2009. Open-label phase continuing into mid-2009, examining IQ. Potential out-licensing opportunity in Europe.
NPL-2005	Undisclosed	Fragile X syndrome (behavioural symptoms)	Phase II study complete with results expected to be presented at a conference in Q2. Marketed anticonvulsant drug used for treating epilepsy and bipolar disorder, which would likely be developed in a novel formulation.
NPL-2009	fenobam	Fragile X syndrome	Glutamate receptor antagonist, previously studied (although not approved) in another indication. Phase I bridging study complete and plans to start a Phase II study in Q2 2008. US orphan drug designation held.
NPL-2003	Undisclosed, marketed antibiotic	Paediatric OCD	Phase II underway in US with results due Q3 2008. Primary endpoint is change in OCD symptoms using the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS).

Source: Edison Investment Research

### NPL-2008: key to investment case

Neuropharm's investment case rests squarely on its lead R&D project, a novel fast-dissolving low-dose formulation of fluoxetine designed specifically for use in the new indication of autism.

Fluoxetine is a widely used and now off-patent antidepressant originally launched as Prozac by Eli Lilly. First launched in 1986, it remains one of the most widely prescribed CNS drugs. It is a selective serotonin reuptake inhibitor (SSRI) and is approved for depression, obsessive-compulsive disorder, bulimia nervosa, panic disorder and premenstrual dysphoric disorder. Fluoxetine is the only SSRI specifically indicated for use in children aged eight and over for depression and OCD in both Europe and the US. By contrast, paroxetine (Seroxat, GSK) is specifically contra-indicated in children. Other SSRIs such as fluvoxamine (Luvox, Solvay) and sertraline (Zoloft, Pfizer) are, however, often used off-label in children for obsessive compulsive disorder.

Neuropharm's novel formulation uses Catalent's Zydys technology, an orally disintegrating "melt in the mouth" wafer tablet, to deliver a low dose rapidly. Zydys is a well-established formulation technology and it is used in some 20 other branded products, which include other CNS drugs such as olanzepine (Zyprexa, Lilly), an antipsychotic. The formulation dissolves within the mouth in three-to-four seconds, which obviously lends itself to its intended use in children.

## Autism

Autism, and the broader autistic spectrum disorder, is a developmental disorder that typically presents itself in children around the age of three years, although symptoms can sometimes be noticed at 18 months. It is characterised by impairment in three core symptom domains: social impairment, speech/communication deficits, and repetitive behaviour/compulsivity. However, these symptoms frequently co-exist with others including social phobia, ADHD, excessive/repetitive language disorders, EEG abnormalities, obsessive compulsive disorder and impulsivity/aggression.

The prevalence is thought to be around 0.6% of the population (one in 100 boys), while a little under 1% of the population may meet criteria for the broader autism phenotype (autism spectrum disorder), which includes autism, Asperger's syndrome and PDD-NOS (pervasive developmental disorder, not otherwise specified).

At present, there are no specific treatments approved for autism, although a variety of drugs are used off-label to treat symptoms associated with the condition. Symptomatic treatments include atypical antipsychotics, anticonvulsants and drugs treatments for attention deficit hyperactivity disorder. Among atypical antipsychotics, risperidone (Risperdal, J&J) is specifically licensed for the treatment of irritability and associated behaviour in autistic children and aripiprazole (Abilify, Bristol-Myers Squibb) is in Phase III trials for the same indication. Importantly, there are no other potentially competing products in development specifically for the treatment of autism.

## Serotonin and autism

The rationale for the NPL-2008 programme stems from scientific evidence from various academic groups suggesting that low levels of serotonin, a key chemical messenger in the brain, are an important feature of autism. One of these academic groups has shown that autistic children have low levels of serotonin in early childhood (up to around age nine) at a time when non-autistic children are showing a 200-fold higher peak in production, although both autistic and controls achieve similar levels by around age 11 (Chugani *et al*, (1999) *Ann Neurol* 45 287).

Fluoxetine, as a SSRI, should increase serotonin levels in the brain, and therefore it is hoped, could potentially normalise the levels if the intervention is made in time. The first publications on fluoxetine in autism date from around 1990. Various studies have showed fluoxetine to be an effective intervention for repetitive behaviour aspects of autism, with improvements in global functioning in adults and children (Cook *et al*, 1992) and children (DeLong *et al*, (1998) *Dev Med Child Neurol* 40 551). In the DeLong study, 129 children aged two years and over were treated for up to 76 months and a reduction in the deficit of language age relative to chronological age in autistic children was observed. However, until the 2005, there were no data from well-controlled studies. In addition, early studies probably administered doses that were too high.

## Commercial agreements

Neuropharm has two important agreements in connection with the NPL-2008 programme. The first is with the Mount Sinai School of Medicine in New York, from which Neuropharm has acquired clinical trial data and an orphan drug designation. Professor Eric Hollander, director of the Seaver Autism Research Center at Mount Sinai, has investigated fluoxetine's use in autism since 1996 and has conducted two studies, a pilot Phase IIa trial and a Phase III study in autistic adults, with funding from FDA. Under the terms of the agreement, Mount Sinai received an equity shareholding in Neuropharm (which is now just under 5%) and a 5% royalty on US net sales.

The second key agreement is a development and licence deal with Cardinal Health (now called Catalent Pharma Solutions) for the development of an orally disintegrating tablet using its Zydis technology. This agreement sets the price for cost of goods, which reduces with volume, and provides for a profit share, equivalent to 10% of gross margin for the first three years, reducing to 3% in year seven and thereafter.

## Intellectual property

Neuropharm's IP on the NPL-2008 programme therefore consists of the US orphan drug designation, the IP covering the Zydis formulation (covered by patents held by Catalent) and the data exclusivity/protection afforded to all regulatory filings (five years in the US and 10 years in Europe). This combination should, in our opinion, be sufficient for Neuropharm to establish a very attractive commercial franchise in the US and potentially elsewhere, despite the availability of generic formulations of the active agent in the drug.

The Zydis formulation is highly suitable to this indication and, moreover, lends itself to the careful dose titration likely to be required (young autistic children are very difficult to administer drugs to). Dose titration is required for fluoxetine in adult patients for depression/OCD because of the drug's pharmacokinetics and in autistic children, the sensitivity caused by low endogenous levels of serotonin makes children exquisitely sensitive to the dose. The mg/day dose likely to be used in autism will range from 2-18mg so is much lower than the normal dose used in treating depression or OCD (10-80mg, averaging 60mg), making the use of existing generic tablet versions unsuitable. Liquid formulations are available, but their concentration of 20mg/5ml, suggests that they would either have to be diluted or given in very small amounts to achieve the low doses necessary for autism. Nonetheless, a relatively high proportion of autistic patients in the US are already treated off-label with fluoxetine, using divided tablet doses or liquid formulations.

## Orphan drug designation

Neuropharm holds the US orphan drug designation (which becomes orphan drug status on approval) for fluoxetine, acquired from Mount Sinai. However, this is a little controversial since the current estimate of the number of patients with autism in the US (around 1m) far exceeds the 200,000 patients which would normally be the cut-off for orphan designation. (Orphan drug status provides a range of incentives, including in the US favourable tax and regulatory treatment and importantly, seven years' marketing exclusivity, as an incentive to develop drugs for rare conditions, where the economics would otherwise mitigate against this). An important aspect of orphan drug

status is that it prevents FDA approving any other formulation of fluoxetine for treating autism for seven years, in order to provide the market exclusivity.

At the time the designation was made in 1999 the number of patients in the US was considered well within the 200,000 limit, but is now accepted to be much higher (c.1m). The legislation states that, once granted, orphan drug status cannot be revoked for reasons of changes in the number of qualifying patients. There has, however, been one example of FDA removing orphan status as a result of retrospective examination of the agreed patient numbers, but we do not believe this could apply in this case. The legislation does provide for the award of orphan designation for conditions where the incidence is higher than 200,000 but where there would be otherwise no economic incentive to develop a drug. Given the fact there are few, if any, other drugs in active development for autism, we consider this would also apply. Neuropharm has not sought orphan drug status in Europe (where similar arrangements exist) and is unlikely to be able to do so, given the patient numbers. However, it may be able to obtain a degree of exclusivity by filing a Paediatric Use Marketing Authorisation, which requires it to conduct a Paediatric Investigation Plan.

## **SOFIA trial**

Neuropharm is currently conducting a Phase III trial known as SOFIA (Study Of Fluoxetine In Autism) which is enrolling 128 patients, treated for 14 weeks with an open-label extension. This trial is expected to render results in Q3 this year and provide the data sufficient to seek approval in the US. The primary endpoint is core symptomatology of autism (such as repetitive behaviour), as measured by the Children's Yale-Brown Obsessive Compulsive Scale modified for pervasive developmental disorders (CYBOCS-PDD). It is a randomised, double-blind, placebo-controlled trial conducted in 17 centres in the US (the company has used its collaboration with Autism Speaks, an influential US charity, to gain access to the charity's network of specialist paediatric centres and key opinion leaders).

In the trial, patients are titrated to one of three doses (2mg, 9mg or 18mg/day) to try to maintain an at least 25% reduction in CYBOCS-PDD, which is assessed at two weekly intervals. The novel approach will treat patients at the lowest dose which provides a clinically meaningful improvement in their symptoms. Children can be recruited from five years old and above and the mean age is likely to be around eight.

## **Development risk**

Neuropharm is conducting bridging and bio-equivalence studies designed to show equivalence of the formulations used in the previous study with the Zydis product. This, when combined with the clinical data from SOFIA and other studies, should allow a regulatory submission to be made for NPL-2008 in late Q4 2008. The company's prior meetings with FDA have suggested that the existing post-marketing surveillance data for fluoxetine and previous marketing submissions should be sufficient to support the non-clinical NDA requirements and that the SOFIA study, combined with data from the Phase IIa and Phase III studies acquired from Mount Sinai, should be sufficient to support the safety profile and efficacy claims.

However, whether this data will be adequate will be determined at the time of the filing of the NDA. Nonetheless, the fact that fluoxetine is approved for use (at much higher doses) for a variety of indications (depression, obsessive compulsive disorder) in both adults and children and widely used off-label in autism suggests there is a very low development risk associated with this programme.

## Pricing

The factor that we consider to be critical to the commercial success of NPL-2008 is likely to be its pricing, particularly in relation to dose. This is unknown at this point, but the decision will be influenced by the pricing of generic fluoxetine and the variation in the doses used (Neuropharm has decided to use 2mg, 9mg and 18mg, so the highest dose is a significant multiple of the lowest dose). It seems likely that Neuropharm will have to use a complex pricing model in respect to dose, so as to keep the per-patient cost within a narrower range. (However, it will at the same time have to try to ensure that it does not create an incentive for patients to split higher doses).

As a working assumption, we believe Neuropharm could achieve an average price of around \$6 per patient per day (or \$2,000 per patient per year) and at this level it should be able to achieve a high penetration rate among young autism patients (possibly up to 50%, although our valuation is generated using a lower figure). The balance it has to strike will be that if priced too highly, physicians/patients may try to split generic fluoxetine tablets or continue to use the liquid formulation off-label.

## KOL support

Neuropharm has undertaken an extensive survey of key opinion leaders (KOLs), which showed significant support for the NPL-2008 development programme. The feedback included:

- 90% felt that autistic spectrum disorder rates were increasing;
- Around 88% of patients are now identified and “in the system”;
- Around 37% were currently taking an SSRI;
- Around 65% of patients would benefit from SSRI therapy;
- More than 70% of clinicians thought the dose range and Zydys formulation were suitable;
- Intention to prescribe – 90% of clinicians surveyed expected to prescribe the drug to adolescents; 80% as first-line treatment to adults; many would switch patients from existing SSRIs and prescribe to new patients; and 40%, who currently do not prescribe, would change this stance if a product received FDA approval.

## Commercial potential

The commercial potential is very significant. In the US there are around 1.8m patients with autism spectrum disorder and in the EU potentially a further 2.8m, making for a total of up to 4.6m in major markets.

The market for NPL-2008 is likely to be young children and adolescents with autism, where intervention is likely to have the greatest effect. In the US, there are around 490,000 patients under 18 with autism.

In the US, the average age at diagnosis is a lot younger, at around four years (although diagnosis may have taken up to 18 months to confirm) than Europe; by comparison in the UK the average age of diagnosis could be as high as 10 years of age. Also in Europe, most countries are less advanced in identifying autism (and some countries do not identify it at all), and the medical profession also has a more conservative attitude towards using drug treatment in children (as is seen from relative use of ADHD). In addition, pricing/commercial considerations in Europe, relative to the US, may lend to limit the lower uptake.

## **US commercial structure**

Neuropharm intends and importantly has the funding to establish a US sales force of around 20-25 reps targeting the child psychiatrists, child neurologists and developmental paediatricians at key centres. This will provide the ability for it to capture a much higher economic return. The company plans to open an office on the US east coast this year and will make the first few appointments this year (the majority of hires will be made in 2009). It has taken the first step with the appointment of a president of US operations, Bob Prachar, who is an experienced industry executive who has held management positions at Johnson & Johnson (head of worldwide immunology new business development, and board member of Centocor), Abbott Laboratories and Merck & Co.

The company has recently appointed Maria Dzaleta, as vice-president, business development. Ms Dzaleta was previously head of European business development at GlaxoSmithKline, and is a former director, business & new product development at GSK. She has considerable operational marketing experience of new product launches and will be focussing on the commercial and marketing strategy for NPL-2008 and other pipeline projects, including finding a European partner.

Finally, Neuropharm's CEO, Robert Mansfield, has significant commercial experience, including the management of new product launches in major territories, acquired from his time as a country manager at SmithKline Beecham.

## **Earlier stage programmes - fragile X, paediatric OCD**

Neuropharm has three other drug development programmes underway, two of which address fragile X syndrome and the third, paediatric OCD.

Fragile X syndrome, although rare, is the largest single cause of inherited mental retardation and affects around 1 in every 4,000 males and one in 7,000 females. Its features include mental impairment, ranging from learning disabilities to mental retardation, attention deficit and hyperactivity, anxiety and unstable mood, autistic behaviour. In addition, seizures (epilepsy) affect about 25% of people with fragile X. Boys are usually more severely affected than girls. While most boys have mental retardation, only 30-50% of girls have significant intellectual impairment; the rest have either normal IQ or learning disabilities. Emotional and behavioural problems are common in both sexes. About 20% of boys with fragile X meet full criteria for autism. Most boys and some girls have some symptoms of autism, but many tend to be very social and interested in other people. There is currently no approved treatment for fragile X syndrome.

NPL-2005 is an off-patent anticonvulsant in development for fragile X syndrome. It is currently in a Phase II study, with results due in Q2 2008. If successful, we consider it likely that Neuropharm would look to develop an oral granule formulation for easy administration.

NPL-2009 is a formulation of fenobam, an off-patent NCE that has been shown to be active in preclinical models of fragile X syndrome in research supported by FRAXA, a US patient advocacy group. Neuropharm has acquired access to the preclinical data from FRAXA, in return for a 3% royalty on sales. Neuropharm has US orphan drug designation for NPL-2009 (there are 150,000 patients in total in the US and EU), which was granted by the OOPD in November 2006. Fenobam was originally developed by Ortho-McNeil (J&J) for treating anxiety, but was discontinued in 1982, at a time when its mode of action was unknown. Researchers at Roche subsequently published work highlighting its mechanism (an mGluR5 antagonist). Neuropharm has an agreement with J&J under which it has a right of reference in respect of an IND on fenobam, in return for a 3% royalty interest in the product for 10 years.

NPL-2003 is a marketed antibiotic that is thought to prevent the effect of glutamate on brain cells and prevents autoimmune damage to brain cells. It is in a Phase II study, with results due in Q3 this year.

## Sensitivities

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The investment proposition centres on NPL-2008 and, in our view, the key sensitivities relate to the commercialisation of NPL-2008 for autism. These include whether Neuropharm's orphan drug designation represents, as it expects, a barrier to entry of similar modified generic fluoxetine formulations in the autism market, its penetration versus off-label use of liquid fluoxetine. In addition, Neuropharm will have to pioneer a relatively complex pricing strategy across the wide range of doses expected to be used (c.2mg-18mg).

There is, however, little development risk associated with this product, which is highly unusual by biotech standards. Other products make a smaller contribution to NPV in view of their relative development stage and risk, and therefore sensitivities associated with them – which are more typical of biotech products – are less important. Two of the earlier-stage development products are, however, repurposed marketed products and therefore likely to command a higher probability of success than the development stage might otherwise indicate.

## Valuation

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We have used a risk-adjusted NPV to value Neuropharm, based on our estimates of the probability of success, combined with the likely economic return and cost of capital. Even using cautious estimates of pricing and market penetration (and assuming only a limited product life cycle) produces a value in the region of £250m, a significant multiple of the current EV.

The figure assumes Neuropharm commercialises NPL-2008 in the US (which produces very attractive returns). We have assumed average pricing of \$2,000 per patient per year and penetration of the under 18 autistic patient population of 30% in the US and 10% in the EU. Cash flows are discounted using a 12.5% cost of capital, common to stocks in the Edison biotech

universe, however, given Neuropharm's strong financial position, there is an argument that a lower cost of capital should apply.

Furthermore, the fact that Neuropharm has sufficient cash sufficient to complete the development programme of fluoxetine in autism and establish a US sales presence should be seen as a significant positive, given the current financing environment.

The probabilities and market share assumptions for the two cases are set out in Exhibit 2. Note we have separated the US and EU sales of NPL2008 to reflect their different timelines. We believe these figures are cautious.

#### Exhibit 2: Edison valuation case assumptions

Note: Potential market value for orphan indications based on estimates of 150,000 patients; \* sales at peak market share, three years into launch.

Product/indication	Status	Prob. of success	Launch year	Peak market share	Est. peak sales* (\$m)
NPL-2008/autism – US	Phase III	75%	Late 2009	30%	\$575m
NPL-2008/autism – EU	Phase III	75%	2012	10%	\$120m
NPL-2005/fragile X	Phase II	25%	2012	10%	\$40m
NPL-2009/ fragile X syndrome	Phase II	20%	2012	10%	\$40m
NPL-2003/ paediatric OCD	Phase II	25%	2012	10%	\$75m

Source: Edison Investment Research

Neuropharm's shares have performed well since its IPO, and more importantly have held their value, despite a wide-ranging sell-off among UK biotech/emerging pharma companies. Its shares are tightly held, with nine shareholders (founders and early investors) holding >3% holdings, accounting for 78% of the share capital. However, the strong performance must also be seen as a reflection of Neuropharm's strong balance sheet and, to date, its delivery on commitments in respect of timing of clinical trials. Some 45% of shares were subject to a one-year lock-in, which has just expired.

## Financials

Neuropharm's interim results show a net loss of £1.6m for the six months to 31 December. Cash at the period end stood at £14.7m, although this figure understates the real cash held by the company by around £900k (which reflects accrued interest on money market investments, margins on forward currency contracts and the R&D tax credit). Our forecasts suggest the company will record an operating loss of around £7m this year, as a result of investment in its programmes.

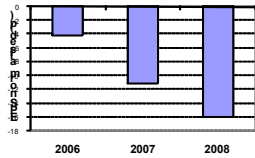
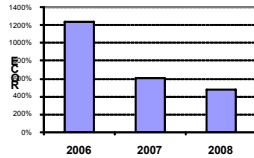
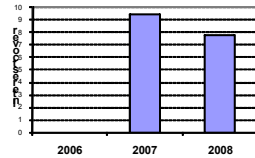
The company raised £20m gross (£18.2m net) in its AIM listing and believes it has sufficient cash to complete the development programme and establish the commercial infrastructure. It has a low fixed cost base and would not need to incur costs in establishing the US salesforce until it can be confident of approval (in mid 2009).

**Exhibit 3: Financials**

Note: 2006 was the year of incorporation.

Year end 30 June	£'000	2006 IFRS	2007 IFRS	2008e IFRS	2009e IFRS	2010e IFRS
<b>PROFIT &amp; LOSS</b>						
<b>Revenue</b>		0	0	0	0	0
Cost of Sales		0	0	0	0	0
Gross Profit		0	0	0	0	0
<b>EBITDA</b>		(277)	(3,006)	(7,011)	(6,904)	(3,353)
<b>Operating Profit (before GW and except.)</b>		(277)	(3,009)	(7,016)	(6,911)	(3,361)
Intangible Amortisation		0	(3)	(3)	(3)	(2)
Exceptionals		0	0	0	0	0
Other		(86)	(544)	(150)	(550)	(550)
<b>Operating Profit</b>		(363)	(3,556)	(7,169)	(7,464)	(3,913)
Net Interest		0	320	900	400	200
<b>Profit Before Tax (norm)</b>		(277)	(2,689)	(6,116)	(6,511)	(3,161)
<b>Profit Before Tax (FRS 3)</b>		(363)	(3,236)	(6,269)	(7,064)	(3,713)
Tax		0	0	350	350	350
<b>Profit After Tax (norm)</b>		(277)	(2,689)	(5,766)	(6,161)	(2,811)
<b>Profit After Tax (FRS 3)</b>		(363)	(3,236)	(5,919)	(6,714)	(3,363)
Average Number of Shares Outstanding (m)		4.2	19.5	31.5	31.5	31.5
EPS - normalised (p)		(6.6)	(13.8)	(18.3)	(19.5)	(8.9)
EPS - FRS 3 (p)		(8.7)	(16.6)	(18.8)	(21.3)	(10.7)
Dividend per share (p)		0.0	0.0	0.0	0.0	0.0
<b>BALANCE SHEET</b>						
<b>Fixed Assets</b>		0	59	66	71	75
Intangible Assets		0	47	44	41	39
Tangible Assets		0	12	22	30	36
Investments		0	0	0	0	0
<b>Current Assets</b>		570	18,109	11,429	5,508	2,339
Stocks		0	0	0	0	0
Debtors		101	458	800	800	800
Cash		469	17,651	10,629	4,708	1,539
<b>Current Liabilities</b>		(146)	(1,365)	(2,600)	(2,000)	(2,000)
Creditors		(146)	(1,365)	(2,600)	(2,000)	(2,000)
Short term borrowings		0	0	0	0	0
<b>Long Term Liabilities</b>		0	(101)	(101)	(101)	(100)
Long term borrowings		0	0	0	0	0
Other long term liabilities		0	(101)	(101)	(101)	(100)
<b>Net Assets</b>		424	16,702	8,794	3,478	314
<b>CASH FLOW</b>						
<b>Operating Cash Flow</b>		(232)	(2,144)	(7,907)	(6,307)	(3,355)
Net Interest		0	320	900	400	200
Tax		0	0	0	0	0
Capex		0	(15)	(15)	(15)	(14)
Expenditure on intangibles		0	0	0	0	0
Acquisitions/disposals		0	0	0	0	0
Financing		701	19,021	0	0	0
Dividends		0	0	0	0	0
Net Cash Flow		469	17,182	(7,022)	(5,922)	(3,169)
<b>Opening net debt/(cash)</b>		0	(469)	(17,651)	(10,629)	(4,708)
HP finance leases initiated		0	0	0	0	0
Other		0	0	0	0	0
<b>Closing net debt/(cash)</b>		(469)	(17,651)	(10,629)	(4,708)	(1,539)

Source: Company accounts / Edison Investment Research

Growth	Profitability	Balance sheet strength	Sensitivities evaluation	
			Litigation/regulatory	○
			Pensions	○
			Currency	◐
			Stock overhang	○
			Interest rates	◐
			Oil/commodity prices	○

Growth metrics	%	Profitability metrics	%	Balance sheet metrics	Company details
EPS CAGR 05-09e	N/A	ROCE 08e	N/A	Gearing 08e	N/A
EPS CAGR 07-09e	N/A	Avg ROCE 05-09e	N/A	Interest cover 08e	7.8
EBITDA CAGR 05-09e	N/A	ROE 09e	N/A	CA/CL 08e	4.4
EBITDA CAGR 07-09e	N/A	Gross margin 09e	N/A	Stock turn 08e	N/A
Sales CAGR 05-09e	N/A	Operating margin 08e	N/A	Debtor days 08e	N/A
Sales CAGR 07-09e	N/A	Gr mgn / Op mgn 08e	N/A	Creditor days 08e	N/A
				Address:	
				Fetcham Park House Lower Road, Leatherhead Surrey KT22 9HD	
				Phone	01372 371 171
				Fax	01372 371 171
				www.neuropharm.co.uk	

Principal shareholders	%	Management team
Dr Mike Hudson	12.5	<b>CEO: Robert Mansfield</b>
Dr Mike Snape	10.9	Former CEO of Vernalis and predecessor company Vanguard Medica (1992-2003). 13 years prior experience in regulatory, clinical and pharmaceutical development at SmithKline & French. Also holds chairmanship of Enkam Pharmaceuticals (Denmark) and a past chairman of the BioIndustry Association.
Schroder Investment Management	10.6	
Cazenove Investment Management	10.0	
Insight Investment Management	10.0	<b>CFO: Graham Yeatman</b>
West Coast Capital	8.0	Former finance and operations director of buyingTeam (2001-2006), a leading purchasing services provider. Chartered accountant (13 years with PricewaterhouseCoopers).
Sir Christopher Evans	7.8	<b>CSO: Dr Mike Snape</b>
Mount Sinai School of Medicine	4.7	Co-founder of Neuropharm. 18 years prior experience in drug development in the pharmaceutical industry and early-stage life science companies, with a focus on CNS. Principal scientist at Cerebrus and an associate director at Vernalis Group.
Aegon UK Group	3.5	<b>Chairman: Dr Graeme Hart</b>
		Non-executive chairman. Practising orthopaedic surgeon with prior experience as NED of a number of healthcare companies (including Huntleigh Technology, Evlutec, HealthCare Services, CrestaCare, Thornbury Nursing Services). Currently NED of ClinPhone and Corin.
Forthcoming announcements/catalysts	Date *	
Interim results	28 February	
Results of NPL-2005	Q2 2008	
Results of SOFIA trial & NPL-2003	Q3 2008	
Filing of NPL-2009	Q4 2008	
<i>Note: * = estimated</i>		

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