



Member FINRA/SIPC

Toll Free: 866-928-0928 ♦ www.DawsonJames.com ♦ 925 Federal Highway, 6<sup>th</sup> Floor ♦ Boca Raton, FL 33432

# INSTITUTIONAL RESEARCH

## *Healthcare & Biotechnology*

### TERMINATION REPORT

**Neurobiological Technologies (NTII)**

**New: SELL**  
**Old: Spec. Buy**

December 17, 2008

**Viprinex Fails Interim Phase III Futility Analysis**

Stephen M. Dunn  
Director of Research  
(561) 208-2905  
sdunn@dawsonjames.com

**Current Price      \$0.25 *Intraday*      Old Target \$7.00      New Target \$0.50**

**Investment Highlights:**

- 1) **Viprinex Fails Interim Phase III Futility Analysis:** Today, NTII announced the Data Safety Monitoring Board (DSMB) determined the clinical trials of Viprinex for acute ischemic stroke were **unlikely to show benefit** and NTII has terminated further enrollment in the trials. NTII will obtain and analyze the data before evaluating the potential for any future development of Viprinex. The DSMB determined that there was **no clinically meaningful difference in outcome** between the two treatment groups as measured on the modified Rankin scale of disability, the primary endpoint of the study.
  
- 2) **XERECEPT Database Locked - Data at ASCO:** On December 16<sup>th</sup>, partner Celtic Pharma stated the databases had been locked and preliminary analyses completed on the two double-blinded studies of XERECEPT for peritumoral brain edema and the open-label study of XERECEPT's long-term safety and efficacy. While data will not be released until ASCO, Celtic stated the data "...indicated the efficacy and long term safety of Xerecept as a treatment for cerebral edema associated with primary and metastatic brain tumors..." Celtic also announced that they will sell XERECEPT to another company in 2009.
  
- 3) **Downgrading to SELL:** Due to the failure of Viprinex, the main value driver for NTII, we are downgrading NTII to Sell (from Speculative Buy) and reducing our Target Price to \$0.50 (from \$7.00) based on .5x cash. With the patent expiring on NAMENDA, delays due to Celtic selling XERECEPT to another company and the 2-3 years needed to file an IND for the FGF-2 program, we believe investors should seek other opportunities at this time.
  
- 4) **Terminating Coverage:** With no significant near- or medium-term catalysts currently on the horizon for NTII, we are terminating research coverage at this time.

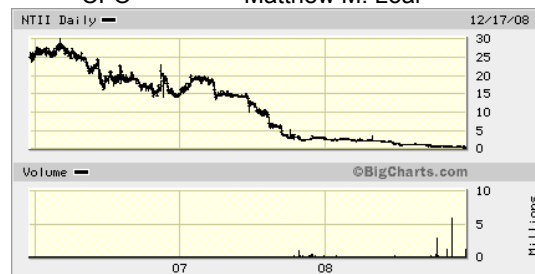
**Stock Data**

52-Week Range	\$0.41 - \$3.47
Shares Outstanding (Mill)	26.9
Market Capitalization (\$Mill)	\$8.3
Average Daily Volume	27,914
Book Value/Share	\$0.64
Price/Book	0.4X
Cash / Securities (\$Mill)	\$28.2
Cash/Share	\$1.05
Enterprise Value (\$Mill)	(\$12.5)
Current Ratio	2.8
Debt (\$Mill)	\$0
Dividend/Yield	\$0.00/0%
Short Interest (Mill) / %	0.1 / 0.1%

Results-FYE June	2007	2008	2009E	2010E
Revenues (\$Mill)	\$17.7	\$14.8	\$12.6	\$10.1
EPS (Loss)	(\$0.47)	(\$0.84)	(\$0.54)	(\$0.70)

**Management**

CEO Paul E. Freiman  
CFO Matthew M. Loar



Price target and ratings changes over the past 3 years:  
Initiated January 30, 2007 – Spec. Buy – Target \$7.00  
Downgrade December 17, 2008 – Sell – Target \$0.50

See last page for important disclosures and analyst certification.

---

## COMPANY DESCRIPTION

Emeryville, California-based Neurobiological Technologies, Inc. (Nasdaq:NTII) is a biotechnology company developing central nervous system (CNS) related drug candidates. NTII is focused on therapies for neurological conditions that occur in connection with ischemic stroke, brain cancer, Alzheimer's disease and dementia.

NTII currently has one approved drug, NAMENDA (memantine), an oral drug approved for the treatment of moderate to severe Alzheimer's disease in the United States (October 2003) and in Alzheimer's disease in the European Union (May 2002). Memantine is marketed by Merz Pharmaceuticals and its marketing partners, Forest Laboratories and H. Lundbeck A/S. However, the patent expires in 2010.

NTII had only one product candidate in Phase III clinical trials, Viprinex, a compound for the treatment of acute ischemic stroke, which failed the interim futility analysis on December 17, 2008 and the trials were terminated.

NTII has a partnership with the Buck Institute for Age Research for the development of FGF-2 for Huntington's Disease (HD), a fatal hereditary brain disorder that affects approximately 30,000 Americans for which there no effective treatment or cure. However, an IND to begin human clinical trials is approximately 2-3 years away.

NTII sold the rights to XERECEPT, a drug for the treatment of peritumoral brain edema, or swelling around brain tumors, to Celtic Pharma in 2005. NTII continues the Phase III clinical development services in the United States related to XERECEPT. Should XERECEPT be successful, NTII is entitled to royalties on sales XERECEPT.

---

## MARKETED PRODUCTS

### NAMENDA<sup>®</sup> (Memantine Hydrochloride)

Neuronal injury may be a result of several factors but the major contributing factor is the over-activation of N-methyl-D-aspartate (NMDA) receptors located on cell membranes. Chronic over-activation of NMDA leads to neurologic deterioration and any drug that inhibits this over-activation of NMDA has the potential to treat several indications such as neuropathy, dementia and Alzheimer's. Head injury, brain tumors or stroke, impaired neurons also release excessive amounts of glutamate and toxic levels of calcium that enter surrounding cells, facilitating a progressively destructive process.

→ **Patent protection lapses in 2010:** NTII announced an amendment in February 2008 of its license with Merz Pharmaceuticals GmbH (Merz) and Children's Medical Center Corporation ("CMCC") relating to memantine (sold as Namenda in US and Ebixa in EU). The amendment includes discontinuing payment of royalties on sales for Alzheimer's disease outside of the United States beginning in Q4 2007 and a staged reduction in the royalty rates beginning in Q3 2008. In addition, the amendment provides that neither CMCC nor Merz will give notice of termination for the development of memantine for the CMCC indications before July 1, 2009 or to be effective before January 1, 2010. Investor should note that this expected royalty reduction has already been included in our financial model.

---

## VIPRINEX

→ On December 17, 2008, management announced that an independent Data Safety Monitoring Board (DSMB) has determined that the current clinical trials of Viprinex for the treatment of acute ischemic stroke are **unlikely to show benefit**. As a result, the company has **terminated further enrollment** in the trials. NTI will obtain and analyze the data before evaluating the potential for any future development of Viprinex. The interim analysis conducted by the DSMB evaluated stroke patients' outcome 90 days following an acute ischemic stroke, comparing treatment with Viprinex to treatment with placebo. **The DSMB determined that there was no**

**clinically meaningful difference in outcome between the two treatment groups as measured on the modified Rankin scale of disability, the primary endpoint of the study.**

**Viprinex™ (ancrod injection)**

Viprinex (ancrod) is a purified fraction of venom from the Malayan Pit Viper (*calloselasma rhodostoma*) and is a thrombin-like enzyme that is highly specific to fibrinogen and has been shown to be effective in cleaving fibrinopeptide-A from fibrinogen. Virprinex is being developed as a defibrogenating agent for the 1<sup>st</sup>-line treatment of acute ischemic stroke patients.

The only FDA-approved drug is Genentech’s (NYSE:DNA) Activase (rtPA or recombinant tissue plasminogen activator) for the 3-hour window from stroke onset. Virprinex’ ASP-I and ASP-II clinical trials are designed to lengthen the stroke treatment window to 6 hours.

**ASP-I & ASP-II (Ancrod in Stroke Program) - Phase III clinical trials** – Two Phase III clinical trials were initiated to determine whether a brief intravenous infusion of ancrod started within 6 hours of stroke onset improves functional outcome at 3 months. In October 2008, the FDA agreed to allow NTII to consolidate and analyze data from both the ASP-I and ASP-II Phase III trials into a single Phase III pivotal trial.

	ASP-I	ASP-II
# of Patients	650	650
Start Date	July 2005	March 2006
Interim Analysis	December 2008 (500 Patients)	
Enrollment Complete	Terminated 12/08	
Final Data	Early-2009	

*Source: Dawson James Securities Estimates*

- **Official Title:** Study of Acute Viprinex™ for Emergency Stroke: A Randomized, Double-Blind, Placebo-Controlled Study of Ancrod (Viprinex™) in Subjects Beginning Treatment Within 6 Hours of the Onset of Acute, Ischemic Stroke
- **Trial Design:** Treatment, Randomized, Double-Blind, Placebo Control, Parallel Assignment, Safety/Efficacy Study
- **Inclusion Criteria:** Acute ischemic stroke with first symptoms within 6 hours of beginning treatment, baseline NIHSS 5-25.
- **Exclusion Criteria:** No intracranial, extravascular blood on CT; hypertension (systolic > 185; diastolic > 105); baseline fibrinogen level < 100 mg/dL; thrombocytopenia (< 100,000 / mm3); recent (< 3 days) or anticipated (< 5 days); use of a thrombolytic agent; or recent (< 14 days) or anticipated surgery.
- **Treatment:** Patients receive a one-time, 2-3 hour infusion of ancrod or placebo within six hours of the initial symptom onset of their ischemic stroke, and are then followed for three months to collect information on their functional status.
- **Primary Endpoint:** Mortality rate and number of patients who are independent in day-to-day functioning at 90 days, as measured with the Barthel Index.
- **Secondary Endpoint:** Continuous Barthel Index, the modified Rankin Scale, and lesion volume as determined on a 5-day MRI.

**Previous Clinical Trials**

Viprinex has had conflicting Phase III clinical trial results in the past with the successful U.S. STAT trial and the failed European ESTAT trial. While the drug has been given to over 1,900 patients and has successfully demonstrated clinical activity, the side-effect profile indicated increased risk of intracranial hemorrhage

(bleeding) at higher doses. While the U.S. STAT trial was considered successful, the European ESTAT trial was not.

Details of the trials are shown below:

**STAT (Stroke Treatment with Ancrod Trial) – Phase III clinical trial:** Trial completed and results published in *JAMA* May 10, 2007.

**Trial Design:** Randomized, parallel-group, double-blind, placebo-controlled study of 500 patients at 48 centers in the U.S. and Canada.

**Inclusion Criteria:** Acute ischemic stroke within 3 hours of onset. At least 18 years of age.

**Exclusion Criteria:** Clinical or CT evidence of brain hemorrhage, CT evidence of potentially progressive lesion, very mild stroke, coma, prior stroke within 6 weeks, deficit from TIA within 3 hours, ipsilateral neurological deficit from prior stroke, deficit attributed to migraine, hypoglycemia, or sequelae of recent seizure; recent or anticipated surgery, hypertension, antihypertensive medication given within 15 minutes prior to treatment, thrombolytic therapy within previous week or anticipated, coagulation disorder, thrombocytopenia, prior treatment with ancrod.

**Treatment:** Patients were randomized to receive IV ancrod, continuous IV infusion over 72 hours followed by 2 days of intermittent IV dosing (n=248) or placebo (n=252). Follow-up CT scan was performed 7-10 days after stroke to determine infarction volume and incidence of asymptomatic intracranial hemorrhage.

**Primary Endpoint:** Barthel Index at 3 months.

**Secondary Endpoint:** Scandinavian Stroke Scale, CT infarct volume.

**Results:** The Results were published in *JAMA* 2000 May 10;283(18):2395-403 titled “*Intravenous ancrod for treatment of acute ischemic stroke: the STAT study: a randomized controlled trial. Stroke Treatment with Ancrod Trial*” and are shown below:

<b><u>Results at 90 days poststroke</u></b>	<b><u>Ancrod (n=248)</u></b>	<b><u>Placebo (n=252)</u></b>	<b><u>p value</u></b>
<b>Favorable functional status</b>	42.2%	34.4%	0.04
<b>Severely disabled patients</b>	11.8%	19.8%	0.01
<b>Complete recovery</b>	36.1%	28.4%	0.02
<b>Mortality</b>	25.4%	23.0%	0.62
<b>Symptomatic intracranial hemorrhage</b>	5.2%	2.0%	0.06
<b>Asymptomatic intracranial hemorrhage</b>	19.0%	10.7%	0.01

✓ **Favorable functional status was achieved by more patients in the ancrod group** (42.2%) than in the placebo group (34.4%; P=.04)

✓ **Proportion of severely disabled patients was less in the ancrod group** than in the placebo group (11.8% vs 19.8%; P=.01)

✓ **The favorable functional status observed with ancrod vs placebo was consistent** in all subgroups defined for age, stroke severity, sex, prestroke disability, and time to treatment (< or = 3 or > 3 hours after stroke onset).

- X There was a trend toward more symptomatic intracranial hemorrhages in the ancrod group** vs placebo (5.2% vs 2.0%; P=.06)
- X There was a significant increase in asymptomatic intracranial hemorrhages** (19.0% vs 10.7%; P=.01)
- X Mortality was not different between treatment groups** (at 90 days, 25.4% for the ancrod group and 23% for the placebo group; P=.62)
- ✓ CONCLUSION: In this study, ancrod had a favorable benefit-risk profile for patients with acute ischemic stroke.**

**ESTAT (European Stroke Treatment with Ancrod Trial) – Phase III clinical trial:** European trial terminated in March of 2000 after futility analysis at a pre-planned interim analysis. At that time 1,222 patients had been enrolled. A 90-day mortality analysis of patient data from this interim data set showed that mortality was higher in ancrod than placebo patients.

Trial Design: International, multi-center, double-blind, randomized, placebo-controlled trial of 1,222 patients at 101 centers.

Inclusion Criteria: Ischemic stroke presenting within 6 hours of onset, sudden and persistent stroke-related neurological deficits, at least 18 years of age, baseline Scandinavian Stroke Scale (SSS) score excluding the gait item <40.

Exclusion Criteria: Intracranial hemorrhage and evolving large ischemic infarcts as detected by CT scan.

Treatment: Patients were randomized to receive ancrod administered by continuous infusion for 72 hours, followed by a single IV infusion each day for 2 days to reach and maintain a fibrinogen level of 4070 mg/dl.

Primary Endpoint: Barthel index 95-100 or return to pre-stroke values after 3 months.

Secondary Endpoint: Scandinavian Stroke Scale, Rankin Scale and death after 3 months and outcome after one year.

Results: The results were published in *The Lancet* 2006 Nov 25;368(9550):1871-8 titled “Intravenous ancrod for acute ischaemic stroke in the European Stroke Treatment with Ancrod Trial: a randomised controlled trial” and are shown below:

- X Functional success at 3 months did not differ between patients given ancrod (42%) and those given placebo (42%)** (p=0.94, OR=0.99, 95% CI, 0.76-1.29).
- X Trial was halted at 40% enrollment due to increased intracranial hemorrhage versus placebo.**
- ✓ Overall death rate of 20% in ESTAT was lower than in the control groups of earlier controlled trials,** including the Neurological Disorders and Stroke (NINDS) tPA trial, which reported a death rate of 21% among controls, and STAT's 23% death rate.
- X CONCLUSION: Ancrod should not be recommended for use in acute ischaemic stroke past 3 hours.**

---

## Fibroblast Growth Factor-2 (FGF-2)

In December 2007, NTII announced a new partnership with the Buck Institute for Age Research. NTII began development of FGF-2 for Huntington's Disease (HD), a fatal hereditary brain disorder that affects approximately 30,000 Americans for which there no effective treatment or cure. **Investors should note that NTII management stated in February 2008 that an IND is "probably 2 to 3 years away"**.

Fibroblast Growth Factor-2 (FGF-2) is a naturally occurring protein that has been studied extensively for its neuroprotective properties. Scientists at the Buck have used FGF-2, in both cell-based and animal models of HD. After being treated with FGF-2, mice with HD showed a 150% increase in new nerve cells, compared to a 30% increase in non-HD mice. Treatment with FGF-2 extended the lifespan of the affected mice by 20%; the animals also exhibited improved motor performance, decreased cell death and a reduction in the amount of toxic aggregates that typically form in the brains of those affected by HD. Buck scientists will create a form of FGF-2 that can be moved into human clinical trials.

The disease slowly diminishes a person's ability to move, think and communicate. Those affected eventually become totally dependent on others for their care and usually die from complications such as choking, heart failure or infection. The disease is hereditary; each child of a person with HD has a 50/50 chance of inheriting the fatal gene. Approximately 200,000 Americans are believed to be at risk of developing HD, a disease that affects as many people as hemophilia, cystic fibrosis or muscular dystrophy. The symptoms of HD typically begin to appear in mid-life, although the progression of the disease varies among individuals and within the same family.

---

## XERECEPT

XERECEPT (corticotropin acetate injection) is a synthesized version of the peptide hormone Human Corticotropin-Releasing Factor (hCRF) which reduces the permeability of blood vessel walls. XERECEPT has demonstrated inhibition of swelling, or edema, in preclinical studies and is being developed for its ability to reduce peritumoral brain edema (swelling in the brain due to a tumor), a dangerous complication of brain cancer. It has the potential to be safer than synthetic corticosteroids such as dexamethasone, the existing standard treatment for cerebral edema, which has serious and sometimes life-threatening adverse effects at the chronic high doses required for efficacy.

### **Peritumoral Brain Edema**

More than 200,000 patients in the United States are diagnosed with a primary or metastatic brain tumor annually. Of these, primary brain tumors account for approximately 40,000 patients and metastatic brain tumors (cancer from elsewhere in the body spread to the brain) account for the remainder, which occurs in 10-15% of patients with cancer.

For most of these patients, peritumoral cerebral edema (brain swelling) is a serious condition that can lead to seizures, muscle weakness, loss of coordination, and double vision. Current approved treatments include synthetic corticosteroids which are suboptimal at the high, chronic doses needed to be effective. Serious side effects of corticosteroids include psychosis, muscle wasting, osteoporosis, and vision problems.

XERECEPT inhibits the accumulation of fluids into the brain tissue; thereby reducing pressure within the confines of the skull that occurs with this condition. **The FDA granted XERECEPT orphan drug designation for peritumoral brain edema in 1998.**

In November 2005, NTII sold its rights to XERECEPT to Celtic Pharma and is assisting Celtic Pharma with the administration of the ongoing clinical trials. NTII has the potential to receive milestone, royalty and revenue sharing payments, if XERECEPT is successfully developed.

**XERECEPT Clinical Trials**

➔ On December 16, 2008, Celtic Pharmaceutical announced the databases have been locked and preliminary analyses completed on the two double-blinded studies of XERECEPT for peritumoral brain edema, as well as an initial database lock on the open-label study of XERECEPT's long-term safety and efficacy. While results were not announced, Celtic management stated **"We believe that the trial data we now have in hand indicate the efficacy and long term safety of Xerecept as a treatment for cerebral edema associated with primary and metastatic brain tumors, permitting substantial reductions or elimination of cortico-steroid dosing in this patient population, and that Xerecept has the potential to become part of the generally accepted standard of care for these patients."** The results will be shown at the American Society of Clinical Oncology (ASCO) annual meeting in May 2009 and the American Association of Cancer Research annual meeting (AACR) in April 2009. **Celtic also announced their intention to sell XERECEPT to another company during 2009.**

**NTI 0303 – Phase III clinical trial** for patients with brain tumors and tumor-associated swelling who are taking chronic high doses of Decadron (dexamethasone) to control their neurological symptoms. The trial will determine if treatment with XERECEPT is as effective and safe as treatment with Decadron in patients with brain tumors and tumor-associated swelling. This trial will also determine if patients taking XERECEPT will be able to reduce their dose of Decadron without neurological symptoms returning.

- **Official Title:** A Phase III Randomized, Double-Blind, Dexamethasone-Sparing Study Comparing Human Corticotropin-Releasing Factor (hCRF) to Placebo for Control of Symptoms Associated With Peritumoral Brain Edema in Patients With Malignant Brain Tumor Who Require Chronic Administration of High-Dose Dexamethasone
- **Primary Endpoint:** The primary efficacy endpoint is the proportion of responders, i.e. patients in each treatment group who show improvement at the end of Week 2.

NTI 0303 Trial	
# of Patients	200
Start Date	May 2004
Enrollment Complete	Mid-2007

*Source: Dawson James Securities Estimates*

**Canceled Due to Slow Enrollment: NTI 0302 – Phase III clinical trial:** The decision to discontinue enrollment for this trial was due to slower than anticipated recruitment and Celtic Pharma's conclusion that the new CPDS 0701 imaging study (*see below*) would be a more important contributor to the overall robustness of the XERECEPT® development program. No safety issues prompted this decision.

**CPDS 0701 – Imaging Study:** Celtic Pharma announced plans to initiate an imaging study, CPDS 0701, to assess more directly the effects of XERECEPT® on PBE. Sequential brain scans from some glioblastoma patients being treated with XERECEPT® suggest reduction of edema. The imaging study will aim to establish whether this observation can be substantiated over a larger patient population. The multicenter, open-label, randomized study will investigate the efficacy and safety of XERECEPT® for the reduction of PBE in patients with primary or metastatic brain tumors. The study is targeted to begin enrolling patients in early 2008 at investigational sites in the United States and Canada.

**NTI 0501 – open-label study for patients who have already participated in NTI 0302 or NTI 0303.** This trial will determine if treatment with XERECEPT is safe for patients who require treatment with Decadron (dexamethasone) to control the symptoms of brain swelling (edema).

- **Official Title:** An Open-Labeled, Extended-Use of Human Corticotropin-Releasing Factor (hCRF) Intended for Patients Who Participate in Dexamethasone-Sparing Studies NTI 0302, NTI 0303, or Other Designated Studies

- **Primary Endpoint:** The study will evaluate the overall long-term safety and tolerability of hCRF and steroid toxicities by monitoring dexamethasone dosing, laboratory values, adverse events, electrocardiograms and neurological and clinical status.

NTI 0501 Trial	
# of Patients	320
Start Date	July 2005
Enrollment Complete	Mid-2008

*Source: Dawson James Securities Estimates*

**INTERIM CLINICAL TRIAL RESULTS FOR NTI 0501:** At the November 2007 Annual Meeting of the Society For Neuro-Oncology (SNO), interim results for NTI 0505 were presented. Interim results were:

- ✓ **9 out of 20 patients (45%) were able to discontinue dexamethasone dosage.**
- ✓ **Steroid side effects were resolved or improved in the majority of patients who received a reduced dexamethasone dose.**
- ✓ **20 of the first 32 patients enrolled received XERECEPT<sup>®</sup> daily for at least 20 weeks and demonstrated that XERECEPT<sup>®</sup> was well-tolerated.**

---

## MANAGEMENT

**Paul E. Freiman, President and Chief Executive Officer** - Paul E. Freiman joined NTII as a director in April 1997 and was elected President and Chief Executive Officer in May 1997. He is the former chairman and chief executive officer of Syntex Corporation, where he had a long and successful career and was instrumental in the sale of Syntex to Roche Holdings for \$5.3 billion. He is credited with much of the marketing success of Syntex's lead product, Naprosyn, and was responsible for moving the product to over-the-counter status, marketed by Proctor & Gamble as Aleve<sup>®</sup>. Mr. Freiman currently serves as Chairman of Penwest Pharmaceutical Co., and serves on the boards of Calypte Biomedical Corporation, NeoPharm, Inc., NovaCal Pharmaceuticals, Otsuka America Pharmaceuticals, Inc., and SciGen Ltd. He has been Chairman of the Pharmaceutical Manufacturers Association of America (PhRMA) and has also chaired a number of key PhRMA committees. Mr. Freiman holds a B.S. degree from Fordham University and an honorary doctorate from the Arnold & Marie Schwartz College of Pharmacy.

**Matthew M. Loar, Vice President and Chief Financial Officer** - Matthew Loar joined NTI in April 2008. Mr. Loar is a Certified Public Accountant with over 20 years of experience in finance and accounting. He has a strong track record working with growing pharmaceutical and biotechnology companies, and has played a key role in several major corporate collaborations, successfully completing public and private equity financings and implementing the provisions of Sarbanes-Oxley Act at a public biotechnology company. Mr. Loar joined the company from Osteologix, where he served as Chief Financial Officer since 2006. Previously he was Chief Financial Officer at Genelabs Technologies. He graduated from the University of California, Berkeley and is a member of the American Institute of CPAs.

**Warren W. Wasiewski, Vice President & Chief Medical Officer** - Dr. Wasiewski is a Board Certified Pediatric Neurologist with an extensive clinical career. He joined NTII from AstraZeneca (NYSE:AZN) where he was a Sr. Medical Director of Clinical Research, CNS/Emerging Products. At AstraZeneca, he played a pivotal role in the Phase III clinical studies for acute ischemic stroke, known as the SAINT I and SAINT II trials. Prior to AstraZeneca, he was Chairman of Pediatrics at Lancaster General Hospital from 1998 to 2001 and from 1991 to 2001 he was a Consultant Neurologist at Pediatric Neurology Associates in Lancaster, Pennsylvania a practice he founded in 1991. Prior to founding Pediatric Neurology Associates he was an assistant professor of Pediatrics at Penn State Medical School in Hershey PA. He is widely published in areas of disease of the central nervous system including migraine and stroke. Dr. Wasiewski holds a Bachelor of Arts in Biology Cum Laude from

Rutgers College, a Masters of Science in Biochemistry from State University of New York Downstate Medical Center, and a Doctorate of Medicine from State University of New York, at Buffalo.

**David E. Levy, M.D., Vice President, Clinical Development** - David E. Levy, M.D., was appointed vice president of clinical development of NTII in August 2004. Before joining NTII, he was international project team leader at Eisai Medical Research, Inc. where he directed clinical programs for Alzheimer's disease and acute ischemic stroke. Previously, he served as an advisor to Empire Pharmaceuticals and as senior director of medical research at DOV Pharmaceutical. From 1991 to 2001, Dr. Levy was with Knoll Pharmaceuticals last serving as, senior director of cardiovascular/internal medicine. Dr. Levy's academic career includes 23 years at Weill-Cornell Medical College and New York Presbyterian Hospital. Levy earned his B.A. in chemistry and physics, cum laude, from Harvard College and his doctor of medicine degree from Harvard Medical School.

**Karl G. Trass, Vice President, Regulatory Affairs & Quality Assurance** - Karl G. Trass joined NTII in January 2005 and has over twelve years of regulatory affairs experience, including supervising the preparation and filing of both new drug applications and biologics applications, which resulted in four compounds receiving FDA marketing approval. Mr. Trass has extensive experience in a variety of therapeutic areas, including oncology and cardiovascular, and has had significant regulatory experience outside of the U.S. Trass was Director of Regulatory Affairs with Sangamo BioSciences of Richmond, CA. He held the same position at Gilead Sciences in Foster City, CA, and was Associate Director of Regulatory Affairs for Tularik in South San Francisco. Earlier, he was Senior Manager for Regulatory Affairs at Genentech, also in South San Francisco, and Senior Associate for Regulatory Affairs with Syntex of Palo Alto. Trass holds a bachelor's degree in chemistry from Indiana University.

---

## RISKS

Some of the operational and financial risks to Neurobiological Technologies are:

- **Clinical Trial Risk:** A great number of drugs have failed to prove efficacy and/or safety in large-scale Phase III clinical trials, especially in treating stroke. Should NTII's lead drug candidate Viprinex fail to show efficacy or cause an increase in adverse events, NTII would experience a severe negative impact.
- **Dependence on Partners:** NTII is dependent on Merz and Lundbeck for sales of memantine-based products for Alzheimer's disease and on Celtic Labs for development of XERECEPT. Should any of the parties fail to perform or wish to terminate the existing partnership agreements, NTII could be adversely affected.
- **FDA and European Regulatory risks:** As with all drug development efforts, serious unwanted and unexpected side effects, lack of efficacy or insufficient clinical data may delay or preclude regulatory approval of some or all of their drug candidates and there can be no guarantee of timely or definite FDA or EMEA approvals.
- **Sector Rotation:** NTII is a small biotechnology drug development company often kept in a portfolio with similar companies. In such cases, a significant event for one company may have a material impact on the valuation of all similar companies regardless of their unique qualities.

**Neurobiological Technologies, Inc.**  
**Consolidated Statement of Operations**  
*(in \$000s, except EPS)*

FYE June 30th	2005	2006	1Q07	2Q07	3Q07	4Q07	2007	1Q08	2Q08	3Q08	4Q08	2008	1Q09	2Q09E	3Q09E	4Q09E	2009E	2010E
Revenues:	June	June	Sept	Dec	March	June	2007	Sept	Dec	March	June	2008	Sept	Dec	March	June	2009E	2010E
Total revenues	3,100	12,339	4,781	4,020	4,878	3,994	17,673	3,900	3,663	3,684	3,513	14,760	3,565	3,250	2,950	2,850	12,615	10,092
Costs and expenses																		
Cost of product sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(1,486)
Gross Margin	3,100	12,339	4,781	4,020	4,878	3,994	17,673	3,900	3,663	3,684	3,513	14,760	3,565	3,250	2,950	2,850	12,615	9,078
Research & Development	10,749	22,808	5,858	5,681	7,690	7,508	26,737	5,460	7,416	5,945	5,760	24,581	5,452	5,550	5,661	5,774	22,437	23,559
Selling, General & Admin.	4,927	5,968	1,494	1,565	1,686	1,792	6,537	1,659	1,912	1,757	1,548	6,876	1,331	1,430	1,459	1,488	5,707	8,561
Non-recurring charges [2]	12,650	11,501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Expenses	28,326	40,277	7,352	7,246	9,376	9,300	33,274	7,119	9,328	7,702	7,308	31,457	6,783	6,980	7,120	7,262	28,145	32,120
Operating Income	(25,226)	(27,938)	(2,571)	(3,226)	(4,498)	(5,306)	(15,601)	(3,219)	(5,665)	(4,018)	(3,795)	(16,697)	(3,218)	(3,730)	(4,170)	(4,412)	(15,530)	(23,042)
Other Income [5]	249	399	153	116	84	1,120	1,473	2,292	(1,218)	(1,045)	341	376	456	250	150	100	956	400
Net Income (loss) before taxes	(24,977)	(27,539)	(2,418)	(3,110)	(4,414)	(4,186)	(14,128)	(921)	(6,883)	(5,063)	(3,454)	(16,321)	(2,762)	(3,480)	(4,020)	(4,312)	(14,574)	(22,642)
Income Taxes	0	(300)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Income	(24,977)	(27,839)	(2,418)	(3,110)	(4,414)	(4,186)	(14,128)	(921)	(6,883)	(5,063)	(3,454)	(16,321)	(2,762)	(3,480)	(4,020)	(4,312)	(14,574)	(22,642)
Earnings (Loss) per share	(\$0.94)	(\$0.98)	(\$0.08)	(\$0.11)	(\$0.15)	(\$0.13)	(\$0.47)	(\$0.19)	(\$0.36)	(\$0.19)	(\$0.13)	(\$0.84)	(\$0.10)	(\$0.13)	(\$0.15)	(\$0.16)	(\$0.54)	(\$0.70)
Weighted Shares Outstanding	26,530	28,490	29,558	29,559	29,664	32,686	30,367	4,772	19,313	26,913	26,913	19,478	26,924	26,951	26,940	26,940	26,929	32,326

1:7 reverse split 9/17/07  
11/2/07 21,818,181 Shares issued @ \$2.75

**Balance Sheets**  
(\$000)

FYE June 30th	6/30/06	6/30/07	9/30/08
<b>Assets:</b>			
Cash and equivalents	15,248	8,904	28,181
Accounts receivable	1,570	430	184
Interest receivable	28	53	0
Notes receivable [3]	4,000	0	0
Other current assets	818	862	268
Total current assets	21,664	10,249	28,633
Property & equipment, net	752	588	346
Long-Term Investments [7]	0	0	10,274
Other long-term assets	83	84	85
<b>TOTAL ASSETS</b>	<b>22,499</b>	<b>10,921</b>	<b>39,338</b>
<b>Liabilities:</b>			
Accounts payable	875	1,623	517
Accrued expenses	3,233	3,682	4,047
Short-Term Notes	0	0	0
Warranty Liability	0	0	3
Deferred revenue-current [4]	5,500	5,500	5,500
Total current liabilities	9,608	10,805	10,067
Deferred revenue [4]	24,292	18,791	11,917
Other Long-Term Liability	0	3,418	117
<b>TOTAL LIABILITIES</b>	<b>33,900</b>	<b>33,014</b>	<b>22,101</b>
Shareholders' equity	(11,401)	(22,093)	17,237
<b>TOTAL LIAB &amp; EQ</b>	<b>22,499</b>	<b>10,921</b>	<b>39,338</b>

**Notes**

- [1] Federal NOL carryforward was \$14.9M as of 6/30/06 which expire between 2007 and 2026.
- [2] Write-off of in-process R&D from Empire Pharma acquisition
- [3] Note Receivable from Celtic Pharma for XERECEPT due January 2007
- [4] Deferred revenue from sale of XERECEPT to Celtic Pharma
- [5] Includes non-cash gain on change in fair value of warrants
- [6] 11/2/07 21.8M shares sold @ \$2.75 net \$55M in cash
- [7] Auction Rate Securities Reclassified from Current Investments

**DISCLOSURES**



Price target and ratings changes over the past 3 years:

Initiated January 30, 2007 – Speculative Buy – Target \$7.00

Downgrade December 17, 2008 – Sell - Target \$.050

**Analyst Certification:** The analyst(s) whose name appears on this research report certifies that 1) all of the views expressed in this report accurately reflect his personal views about any and all of the subject securities or issuers discussed; and 2) no part of the research analyst’s compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst in this research report; and 3) All Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report.

Dawson James has received investment banking compensation from the company mentioned in this report and Dawson James may actively seek compensation for investment banking services in the future. Dawson James does not make a market in this security. Neither the research analyst whose name appears on this report nor any member of his household is an officer, director or advisory board member of the company. Dawson James did not receive any other compensation from the company in the previous 12 months. The Firm and/or its directors and employees may own securities of the company(s) in this report and may increase or decrease holdings in the future.

**Ratings definitions:** 1) **Speculative Buy:** the stock is expected to appreciate and produce a total return of at least 30% over the next 12-18 months but **the volatility and investment risk is substantially higher** than our "Strong Buy" recommendation; 2) **Strong Buy:** the stock is expected to appreciate and produce a total return of at least 30% over the next 12-18 months; 3) **Buy:** the stock is expected to appreciate and produce a total return of at least 20% over the next 12-18 months; 4) **Neutral:** the stock is fairly valued for the next 12-18 months; 5) **Sell:** the stock is expected to decline at least 20% over the next 12-18 months and should be sold; 6) **Sell Short:** the stock is expected to decline at least 30% over next 12-18 months and should be sold short, however **the volatility and investment risk is substantially higher** than our "Sell" recommendation; 7) **Under Review:** the previous rating and/or price target is suspended due to a significant event which now requires additional analysis and the previous rating and/or price target cannot be relied upon; and 8) **Restricted:** coverage cannot be initiated or has been temporarily suspended to comply with applicable regulations and/or firm policies in certain circumstances such as investment banking or an advisory capacity involving the company.

Ratings Distribution	Company Coverage		Investment Banking	
	# of Companies	% of Total	# of Companies	% of Totals
Speculative Buy	5	42%	2	40%
Strong Buy	2	17%	1	50%
Buy	1	8%	0	0%
Neutral	3	25%	2	67%
Sell	1	8%	1	100%
Sell Short	0	0%	0	0%
Under Review	0	0%	0	0%
Restricted	0	0%	0	0%
Total	12	100%	6	50%

---

**Information about valuation methods and risks can be found in the “STOCK VALUATION” and “RISKS” sections of this report.**

DAWSON JAMES SECURITIES, INC., Member SIPC, FINRA, (the "Firm") does not make a market in these securities. The Firm may perform or seek to perform investment banking services for these companies in the future. Analysts receive no direct compensation in connection with the firm's investment banking business. All Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report. The Firm, its officers, directors, analysts or employees may effect transactions in and have long or short positions in the securities (or options or warrants with respect thereto) mentioned herein. Although the statements of fact in this report have been obtained from and are based upon recognized statistical services, issuer reports or communications, or other sources that the Firm believes to be reliable, we cannot guarantee their accuracy. All opinions and estimates included in this report constitute the analyst's judgment as of the date of this report and are subject to change without notice. The Firm may effect transactions as principal or agent in the securities mentioned herein. The securities discussed or recommended in this report may be unsuitable for investors depending on their specific investment objectives and financial position. This report is offered for informational purposes only, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such would be prohibited. Additional information is available upon request.