NEWS RELEASE

BioVie Announces Positive Results for NE3107 in Parkinson's and Alzheimer's Phase 2 Trials

2022-12-05

NE3107-treated patients experienced greater motor control in Parkinson's trial

- Patients treated with the combination of NE3107 and levodopa saw improvements in their UPDRS Part 3 (motor) score that is 3+ points superior to patients treated with levodopa alone. This level of superiority is considered to be clinically meaningful by Parkinson's experts.
- Patients under 70 years of age treated with NE3107/levodopa experienced roughly 6 points superiority compared to those treated with levodopa alone, suggesting that younger patients with less advanced disease progression may experience greater impact from treatment with NE3107.
- 88.9% of patients <70 years old treated with NE3107 and levodopa experienced greater than 30% part 3 score improvements from baseline at the 2-hour mark compared to 63.6% of patients treated with levodopa alone.
- The study met both of its objectives.

NE3107-treated patients experienced improved cognition and biomarker levels in Alzheimer's trial

- Patients treated with NE3107 experienced enhanced cognition as measured by multiple assessment tools, including a 2.1 points improvement on the modified ADAS-Cog12 scale (p=0.0173) among MCI and mild Alzheimer's Disease (AD) patients
- NE3107 reduces CSF phospho-tau levels by -1.66 pg/mL (p=0.0343) and the ratio of p-tau to $A\beta_{42}$ by -0.0024 (p=0.0401)
- 18 of 22 patients with abnormal baseline scans showed improvement in one or more brain regions as seen from advanced functional MRI studies
- No drug-related adverse events were observed

CARSON CITY, Nev., Dec. 05, 2022 (GLOBE NEWSWIRE) -- BioVie Inc., (NASDAQ: BIVI) (“BioVie” or the “Company”) a clinical-stage company developing innovative drug therapies for the treatment of neurological and neurodegenerative disorders and advanced liver disease, today announced positive results from two Phase 2 trials assessing NE3107’s potential in Parkinson’s Disease (PD) and Alzheimer’s Disease (AD).

Enhanced motor control shown in Parkinson’s trial

The NM201 study (NCT05083260) is a double-blind, placebo-controlled, safety, tolerability, and pharmacokinetics study in Parkinson's disease (PD) participants treated with carbidopa/levodopa and NE3107. 45 patients with a defined L-dopa “off state” were randomized 1:1 to placebo:NE3107 20 mg twice daily for 28 days. This trial was launched with two design objectives: 1) the primary objectives are safety and a drug-drug interaction study as requested by the FDA to demonstrate the absence of adverse interactions of NE3107 with levodopa; and 2) the secondary objective is to determine if preclinical indications of promotoric activity and apparent enhancement of levodopa activity can be seen in humans. Both objectives were met.

“NE3107 shows promise, and if the current findings are confirmed, it may represent one of the most significant advances in Parkinson’s treatment in decades,” commented Joseph Palumbo, BioVie’s Chief Medical Officer. “The NE3107-levodopa combination’s ability to provide 3+ points improvement on the part 3 score compared to levodopa-alone is a very meaningful clinical benefit according to PD experts. It may be more beneficial for patients whose disease is less advanced as seen from the 6+ point superiority on the part 3 score for patients <70 years old.”

Before study commencement and at multiple points throughout the 28-day trial, patients who did not receive PD medications for at least 8 hours overnight were observed using the Unified Parkinson’s Disease Rating Scale (UPDRS) first thing in morning (hour 0). Patients were then given medication and observed again using UPDRS at 1, 2, 3, 4, and 8 hours after drug administration. Part 3 of the UPDRS instrument assessed motor control.

A photo accompanying this announcement is available at
https://www.globenewswire.com/NewsRoom/AttachmentNg/9df20fac-a2d3-4f6b-89ea-68d001a7f828

- Patients treated with NE3107 and levodopa saw improvements of part 3 score on Day 28 compared to Day 0 that is 3+ points better than those treated with levodopa alone at the 2- and 3-hour marks. This level of superiority is considered by PD experts to be clinically meaningful. [1]
- Patients younger than 70 years old treated with NE3107 and levodopa experienced improvements that are roughly 6 points better than levodopa-treated alone. Patients younger than 70 years old represented roughly

one-half of study participants.

A photo accompanying this announcement is available at
https://www.globenewswire.com/NewsRoom/AttachmentNg/7ace7875-4e88-4f98-8ed9-7640046995aa

- After 28 days of treatment, 63.6% of patients treated with levodopa alone experienced >30% improvement from Day 0 at the two-hour mark compared to 80% for NE3107+levodopa-treated patients and 88.9% of NE3107+levodopa patients under 70 years old. This pattern is also observed for other time periods.
- There were no drug-related adverse events

Full details from this trial will be presented at the upcoming AD/PD™ 2023 International Conference on Alzheimer's and Parkinson's Diseases to be held March 28-April 1, 2023 in Gothenburg, Sweden.

"This trial is primarily a safety and drug-drug interaction study that we expanded in hopes of finding an efficacy signal," explained Cuong Do, BioVie's President and CEO. "The fact that this small trial showed this magnitude of therapeutic impact for NE3107 allows us to proceed with planning the Phase 3 program for discussion with the FDA."

"My review of the BioVie study of NE3107 in Parkinson's Disease suggests that there is a probable signal of clinical efficacy in the treatment of motor symptoms," stated Dr. Douglas Felter, a former executive at Pfizer, AbbVie, and AveXis experienced in developing PD treatments who was not associated with the NM201 trial. "This signal should be pursued in a larger, focused, confirmatory study."

1 Horvath K. doi.org/10.1016/j.parkreldis.2015.10.006

Additional Positive Alzheimer's Data Presented at CTAD

The Phase 2 trial (NCT05227820) enrolled a total of 23 patients – 18 patients with Mini-Mental State Examination (MMSE) scores greater than or equal to 20 (i.e., mild cognitive impairment [MCI] to mild AD) and 5 patients with MMSE <20 (i.e., moderate AD) – in an open-label, single arm study. The trial measured changes in cognition through verbal and visual test procedures, changes in biomarkers of Alzheimer's disease and inflammation that can be measured in both cerebral spinal fluid (CSF) and serum samples, and changes in functional magnetic resonance imaging in patients before and after treatment with 20 mg of NE3107 twice daily for 3 months.

Topline results were released on September 7, 2022, and Dr. Sheldon Jordan (the Principal Investigator) and his team presented additional data through a platform presentation at the Clinical Trial in Alzheimer's Disease (CTAD) annual conference, held in San Francisco, CA November 29 to December 2, 2022. These data showed the following among patients with MMSE>=20 (i.e., mild cognitive impairment and mild AD):

- Patients demonstrated enhanced cognition after three months of treatment with NE3107 compared to baseline as measured using multiple rating scales
    - Improvement of 2.2 point on the modified ADAS-Cog12 scale (p=0.0173), equating to 21.1% (p=0.0079) change compared to baseline. Among only responders, the improvement was 3.7 points (p=0.0003) equating to 36.2% (p<0.0001) compared to baseline
    - Improvement of 0.11 (p=0.0416) on the Clinical Dementia Rating scale (CDR), equating to 19.4% (p=0.0416) change from baseline
    - Improvement of 0.07 points (p=0.0094) on Alzheimer's Disease Composite Score (ADCOMS)
- Patients improved in daily function as evidenced by an increase in the Global Rating of Change scale [2]: +2.67 (p<0.0001) as observed by clinicians; +2.08 (p=0.0012) as reported by the patients; and +1.69 (p=0.0011) as reported by study partner.
- Improvements in inflammation (reduction in TNFα) correlated with improvements in cognition (R=0.59, p=0.0259)
- Patients experienced a reduction of CSF phospho-tau levels of -1.66 pg/mL (p=0.0343) and the ratio of p-tau to $A\beta_{42}$ by -0.0024 (p=0.0401). Among responders, the reduction in p-tau was -3.22 pg/mL (p=0.0027) and the ratio of p-tau to $A\beta_{42}$ was 0.0040 (p=0.0144)
- 18 of 22 patients with abnormal baseline scans showed improvement in one or more brain regions as seen from advanced functional MRI studies
- MCI and mild AD subjects with abnormal scans that improved after 3 months treatment also saw a -0.068 points improvement in their ADCOMS scores (p=0.0258)

"Through our work, we are seeking to deepen our understanding of brain degeneration and ultimately identify promising treatments that have the potential to counteract the degenerative process. Results from this trial provide encouraging signals that NE3107 may offer significant potential to reduce neuroinflammation and potentially improve metabolic parameters such as glutathione in the brain, and warrant further study in this patient population," said Dr. Jordan. "I was surprised to see imaging data changes and how so many patients had increased Global Rating of Change scores, indicating overall improvement of the disease."

Commenting on the data, Cuong Do, President and CEO of BioVie said, "AD drug development at BioVie is based on the evidence that AD pathology is multifactorial in nature. While Aβ and p-tau are important factors, decades of research on dozens of agents have not conclusively correlated improvements on these individual factors to improvements in cognition. We believe additional factors such as inflammation, insulin resistance, metabolic dyshomeostasis, apoptosis, oxidative stress, and glucose utilization also play critical roles in AD etiology. Data show

that NE3107's ability to reduce TNFα (the major regulator of inflammation) is highly correlated to improvements in cognition. We are pleased that the Principal Investigator observed these changes in 23 patients in only 3 months. We hypothesize that the modulation of TNFα levels and its inflammatory activation via TNFR1 lead to a multitude of changes among the many factors downstream from this master regulator, which collectively lead to improvements in neuronal health and cognition."

2 The Global Rating of Change scale ranges from +5 to indicate significant improvement to -5 to indicate significant worsening

About Inflammation and NE3107's Mechanism of Action

Neuroinflammation, insulin resistance, and oxidative stress are common features in the major neurodegenerative diseases, including Alzheimer's Disease (AD), Parkinson's Disease (PD), frontotemporal lobar dementia, and ALS. NE3107 is an oral small molecule, blood-brain permeable, compound with potential anti-inflammatory, insulin sensitizing, and ERK-binding properties that may allow it to selectively inhibit ERK-, NFκB- and TNF-stimulated inflammation. NE3107's potential to inhibit neuroinflammation and insulin resistance forms the basis for the Company's work testing the molecule in AD and PD patients.

Remarkable parallels exist between AD and PD, among them activated microglia driving inflammation, involvement of TNFα, oxidative stress, protein misfolding, mitochondrial dysfunction, and insulin resistance. In preclinical and clinical studies, NE3107 reduced inflammation and enhanced insulin sensitivity, both of which are important to PD pathology. Preclinical studies in marmoset monkeys have shown NE3107 administered alone to be as pro-motoric as levodopa, underscoring the apparently critical role of inflammation in expression of PD dysmobility. When NE3107 was administered with levodopa, the combination improved motor control better than either drug alone. Furthermore, in the marmoset study, NE3107 reduced the severity of levodopa induced dyskinesia (LID) concurrent with pro-motoric benefit and decreased neurodegeneration, preserving twice as many dopaminergic neurons compared to control.

About BioVie

BioVie Inc. (NASDAQ: BIVI) is a clinical-stage company developing innovative therapies to overcome unmet medical needs in chronic debilitating conditions. In neurodegenerative disease, the Company's drug candidate NE3107 inhibits inflammatory activation of ERK and NFkB (e.g., TNF signaling) that leads to neuroinflammation and insulin resistance, but not their homeostatic functions (e.g., insulin signaling and neuron growth and survival). Both are drivers of Alzheimer's and Parkinson's diseases. The Company is conducting a potentially pivotal Phase 3 randomized, double blind, placebo controlled, parallel group, multicenter study to evaluate NE3107 in patients who have mild to moderate Alzheimer's disease (NCT04669028) and is targeting primary completion in mid-2023. An estimated six million Americans suffer from Alzheimer's. A Phase 2 study of NE3107 in Parkinson's disease (NCT05083260) completed in December 2022 and is in the process of releasing findings. In liver disease, the

Company’s Orphan drug candidate BIV201 (continuous infusion terlipressin), with FDA Fast Track status, is being evaluated in a US Phase 2b study for the treatment of refractory ascites due to liver cirrhosis with top-line results anticipated in mid-2023. BIV201 is administered as a patent-pending liquid formulation. For more information, visit http://www.bioviepharma.com/.

Forward-Looking Statements

This press release contains forward-looking statements, which may be identified by words such as "expect," "look forward to," "anticipate" "intend," "plan," "believe," "seek," "estimate," "will," "project" or words of similar meaning. Although BioVie Inc. believes such forward-looking statements are based on reasonable assumptions, it can give no assurance that its expectations will be attained. Actual results may vary materially from those expressed or implied by the statements herein due to the Company's ability to successfully raise sufficient capital on reasonable terms or at all, available cash on hand and contractual and statutory limitations that could impair our ability to pay future dividends, our ability to complete our pre-clinical or clinical studies and to obtain approval for our product candidates, to successfully defend potential future litigation, changes in local or national economic conditionsas well as various additional risks, many of which are now unknown and generally out of the Company's control, and which are detailed from time to time in reports filed by the Company with the SEC, including quarterly reports on Form 10-Q, reports on Form 8-K and annual reports on Form 10-K. BioVie Inc. does not undertake any duty to update any statements contained herein (including any forward-looking statements), except as required by law.

For Public/Press Relations Inquiries:

Dennis Consorte
(201) 344-9648
dennisconsorte@gmail.com

For Investor Relations Inquiries:

Bruce Mackle
Managing Director
LifeSci Advisors, LLC
bmackle@lifesciadvisors.com