Neurocrine Biosciences Publishes Long-Term INGREZZA® (valbenazine) Data in the Journal of Clinical Psychopharmacology Demonstrating Once-Daily 40 mg and 80 mg Capsules Reduced Involuntary Movements in Adults with Tardive Dyskinesia

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- Approximately 90% of Patients Treated with INGREZZA in the Open-Label KINECT 4 Phase III Study Achieved a 50% or Greater Improvement in Their Tardive Dyskinesia Symptoms

- INGREZZA Continues to Be Well Tolerated Through One Year of Treatment

SAN DIEGO, Nov. 12, 2019 /PRNewswire/ -- Neurocrine Biosciences, Inc. (NASDAQ: NBIX) today announced that the *Journal of Clinical Psychopharmacology*[1] published long-term data from the KINECT 4 Phase III, open-label study of INGREZZA® (valbenazine) capsules, demonstrating that treatment with once-daily 40 mg or 80 mg of INGREZZA reduced involuntary movements in adults who had moderate or severe tardive dyskinesia (TD) and clinical diagnoses of schizophrenia, schizoaffective disorder or a mood disorder.

Approximately 90% of patients receiving 40 mg (90.0%) or 80 mg (89.2%) of INGREZZA achieved ≥50% improvement from baseline as measured by the Abnormal Involuntary Movement Scale (AIMS) total score at 48 weeks of treatment and 89-95% of patients achieved a Clinical Global Impression of Change-TD (CGI-TD) or Patient Global Impression of Change (PGIC) response of "much improved" or "very much improved." INGREZZA was generally well tolerated with no new safety concerns observed, and patients had no notable worsening of psychiatric symptoms.

"Data from this open-label study, which may be more reflective of actual clinical practice, provide clinicians with a better understanding of how INGREZZA can reduce the symptoms of tardive dyskinesia based on both the clinician's and patient's assessment of the patient's symptoms, tolerability and response," said Stephen Marder, M.D., Professor, Psychiatry and Biobehavioral Sciences, David Geffen School of Medicine, University of California Los Angeles. "Tardive dyskinesia is a persistent and often irreversible movement disorder that presents differently from patient to patient and as a result, each patient has unique treatment needs. In this long-term study, it is evident that both dosing options of INGREZZA once-daily provide sustained and clinically meaningful reductions in tardive dyskinesia symptoms and are well tolerated."

TD is a movement disorder that is characterized by uncontrollable, abnormal and repetitive movements of the face, torso and/or other body parts, which may be disruptive and negatively impact patients.

"Approximately 90% of patients treated with INGREZZA in the long-term KINECT 4 study reported that their involuntary movements were reduced by 50% or more, further demonstrating that treatment with INGREZZA can provide patients with much-needed relief from the debilitating symptoms of tardive dyskinesia that can also impact their social, emotional and physical well-being," said Eiry W. Roberts, M.D., Chief Medical Officer of Neurocrine Biosciences. "As we continue to understand the full impact that the involuntary movements of tardive dyskinesia can have on a patient, it is important that healthcare providers have an effective and well-tolerated treatment option like INGREZZA to help patients manage this burdensome and isolating movement disorder."

Of the 163 patients included for analysis, 107 (65.6%) were escalated to the 80 mg/day dose at the week 4 escalation visit. Based on clinician judgment, 45 (27.6%) were maintained on the 40 mg/day dose for tolerability reasons or because they were already experiencing an adequate treatment response. In the group of patients that required a dose reduction from 80 to 40 mg/day (n=11), efficacy did not appear to be compromised in this small subgroup of patients.

The most common treatment-emergent adverse events (TEAE) reported in ≥5% of all INGREZZA treated patients after week 4 were urinary tract infection (8.5%) and headache (5.2%).

About the KINECT 4 Phase III Study

KINECT 4 is a Phase III, open-label study, in which 163 participants with moderate-to-severe TD and underlying schizophrenia, schizoaffective disorder or mood disorder (including bipolar disorder or major depressive disorder) received 48 weeks of open-label treatment with once-daily INGREZZA (40 mg or 80 mg capsules) followed by a 4-week washout. Dosing was initiated at 40 mg/day in all participants, with escalation to 80 mg/day at week 4 based on effectiveness and tolerability. Dose reduction to 40 mg was allowed in participants who could not tolerate the 80 mg dose.

Participants experienced TD improvements during long-term treatment as demonstrated by mean change from baseline to week 48 in AIMS total score (sum of items 1-7, evaluated by site raters) with INGREZZA 40 mg/day (-10.2) or 80 mg/day (-11.0). Consistent with previous studies, INGREZZA was generally well tolerated. After week 4, TEAEs that occurred in ≥5% of all participants (combined dose groups) were urinary tract infection (8.5%) and headache (5.2%). Change from baseline in psychiatric stability, vital signs, electrocardiogram parameters, and laboratory test values were generally small and not clinically significant.

About Tardive Dyskinesia (TD)

Tardive dyskinesia (TD) is a movement disorder that is characterized by uncontrollable, abnormal and repetitive movements of the face, torso and/or

other body parts, which may be disruptive and negatively impact patients. The condition is caused by prolonged use of treatments that block dopamine receptors in the brain, such as antipsychotics commonly prescribed to treat mental illnesses such as schizophrenia, bipolar disorder and depression and certain anti-nausea medications. In patients with TD, these treatments are thought to result in irregular dopamine signaling in a region of the brain that controls movement. The symptoms of TD can be severe and are often persistent and irreversible. TD is estimated to affect at least 500,000 people in the U.S.

About INGREZZA® (valbenazine) Capsules
INGREZZA, a selective vesicular monoamine transporter 2 (VMAT2) inhibitor, is the first FDA-approved product indicated for the treatment of adults with tardive dyskinesia, a condition associated with uncontrollable, abnormal and repetitive movements of the face, torso and/or other body parts.

INGREZZA is thought to work by reducing the amount of dopamine released in a region of the brain that controls movement and motor function, helping to regulate nerve signaling in adults with tardive dyskinesia. VMAT2 is a protein in the brain that packages neurotransmitters, such as dopamine, for transport and release in presynaptic neurons. INGREZZA, developed in Neurocrine's laboratories, is novel in that it selectively inhibits VMAT2 with no appreciable binding affinity for VMAT1, dopaminergic (including D2), serotonergic, adrenergic, histaminergic, or muscarinic receptors. Additionally, INGREZZA can be taken for the treatment of tardive dyskinesia as one capsule, once-daily, together with psychiatric medications such as antipsychotics or antidepressants.

Important Safety Information

Contraindications
INGREZZA is contraindicated in patients with a history of hypersensitivity to valbenazine or any components of INGREZZA. Rash, urticaria, and reactions consistent with angioedema (e.g., swelling of the face, lips, and mouth) have been reported.

Warnings & Precautions
Somnolence
INGREZZA can cause somnolence. Patients should not perform activities requiring mental alertness such as operating a motor vehicle or operating hazardous machinery until they know how they will be affected by INGREZZA.

QT Prolongation
INGREZZA may prolong the QT interval, although the degree of QT prolongation is not clinically significant at concentrations expected with recommended dosing. INGREZZA should be avoided in patients with congenital long QT syndrome or with arrhythmias associated with a prolonged QT interval. For patients at increased risk of a prolonged QT interval, assess the QT interval before increasing the dosage.

Parkinsonism
INGREZZA may cause parkinsonism in patients with tardive dyskinesia. Parkinsonism has also been observed with other VMAT2 inhibitors. Reduce the dose or discontinue INGREZZA treatment in patients who develop clinically significant parkinson-like signs or symptoms.

Adverse Reactions
The most common adverse reaction (≥5% and twice the rate of placebo) is somnolence. Other adverse reactions (≥2% and >placebo) include: anticholinergic effects, balance disorders/falls, headache, akathisia, vomiting, nausea, and arthralgia.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit MedWatch at **www.fda.gov/medwatch** or call 1-800-FDA-1088.

Please see INGREZZA full Prescribing Information at www.INGREZZA.com/PI.

About Neurocrine Biosciences
Neurocrine Biosciences (Nasdaq: NBIX) is a neuroscience-focused, biopharmaceutical company with more than 25 years of experience discovering and developing life-changing treatments for people with serious, challenging and under-addressed neurological, endocrine and psychiatric disorders. The company's diverse portfolio includes FDA-approved treatments for tardive dyskinesia and endometriosis* and clinical development programs in multiple therapeutic areas including Parkinson's disease, chorea in Huntington disease, congenital adrenal hyperplasia, uterine fibroids* and polycystic ovary syndrome*. Headquartered in San Diego, Neurocrine Biosciences specializes in targeting and interrupting disease-causing mechanisms involving the interconnected pathways of the nervous and endocrine systems. For more information, visit neurocrine.com, and follow the company on LinkedIn. *(*in collaboration with AbbVie)*

Forward-Looking Statements
In addition to historical facts, this press release contains forward-looking statements that involve a number of risks and uncertainties. These statements include, but are not limited to, statements related to the benefits to be derived from INGREZZA and the continued success of the launch of INGREZZA. Among the factors that could cause actual results to differ materially from those indicated in the forward-looking statements are: risks and uncertainties associated with the commercialization of INGREZZA; risks and uncertainties relating to factors that may limit demand for INGREZZA; risks associated with the Company's dependence on third parties for development and manufacturing activities related to INGREZZA, and the ability of the Company to manage these third parties; risks that the FDA or other regulatory authorities may make adverse decisions regarding INGREZZA; risks that clinical development activities may be delayed for regulatory or other reasons, may not be successful or replicate previous clinical trial results, may fail to demonstrate that our product candidates are safe and effective, or may not be predictive of real-world results or of results in subsequent clinical trials; risks that INGREZZA may be precluded from commercialization or continued commercialization by the proprietary or regulatory rights of third parties, or have unintended side effects, adverse reactions or incidents of misuse; and other risks described in the Company's periodic reports filed with the Securities and Exchange Commission, including without limitation the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2019. Neurocrine disclaims any obligation to update the statements contained in this press release after the date hereof.

References:

1. Marder, S. et al. A Phase 3, 1-Year, Open-Label Trial of Valbenazine in Adults With Tardive Dyskinesia. J. Clin. Psychopharmacol., 39 (2019), pp 620-627. doi: 10.1097/JCP.0000000000001111

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