June 8, 2022

CNS Pharmaceuticals Announces Presentation of Ongoing Potentially Pivotal Berubicin Clinical Trial Design at the American Society of Clinical Oncology (ASCO) 2022 Annual Meeting

HOUSTON, June 8, 2022 /PRNewswire/ -- CNS Pharmaceuticals, Inc. (NASDAQ: CNSP) ("CNS" or the "Company"), a biopharmaceutical company specializing in the development of novel treatments for primary and metastatic cancers in the brain and central nervous system, today announced that Sigmund Hsu, MD, member of the Company's Scientific Advisory Board, presented an overview of its ongoing clinical trial evaluating Berubicin for the treatment of recurrent glioblastoma multiforme (GBM), at the American Society of Clinical Oncology (ASCO) 2022 Annual Meeting.

The abstract titled "*Design and initiation of an adaptive, randomized, controlled study of berubicin, a topoisomerase 2 poison that crosses the blood brain barrier (BBB), for the treatment of recurrent glioblastoma multiforme (GBM) after first-line therapy,"* was presented in the Central Nervous System Tumors poster session by Dr. Hsu.

Berubicin is a novel anthracycline and the first that appears to cross the blood-brain barrier (BBB) with central nervous system (CNS) uptake. The induction of apoptosis and DNA damage by Berubicin was significantly higher than that of doxorubicin (Dox) in all tested cancer cells, demonstrating Berubicin's greater potential potency and consistently higher cytotoxicity in GBM cell lines than Dox. In models of intracranial orthotopic gliomas, Berubicin prolongs survival when compared to temozolomide (TMZ), currently the standard of care in GBM for first line therapy in combination with radiation. Further evaluation of the orthotopic glioma models demonstrated that Berubicin had greater infiltration into intracranial

glioblastoma cells compared to normal tissue, supporting the potential for improved efficacy. TMZ has been shown to be less effective in approximately 50% of patients due to changes (methylation) to a DNA repair enzyme, MGMT, that when unmethylated proves to be a prognostic indicator of a poorer prognosis. These differences have been proven to not be a factor in the activity of Berubicin.

Based on this data, a Phase 1 dose escalation study was conducted by a prior developer in patients with recurrent primary brain tumors. Berubicin was well tolerated, with myelosuppression (neutropenia and thrombocytopenia) as dose-limiting toxicities. Of 25 patients evaluable for efficacy, there was 1 complete response (14+ years), 1 partial response durable for 12 weeks, and 9 patients with stable disease over 6 weeks for a clinical benefit rate of 44%.

"We are fully dedicated to advancing the development of Berubicin toward potentially providing an innovative and much-needed option for treatment in GBM, an area of significant unmet medical need. With this goal in mind, we consider that our global study, which has been thoughtfully designed based on prior data as well as input from key opinion leaders and feedback from the FDA, could potentially be pivotal. We also believe that valuable interactions with our investigators on this study, as well as our heartfelt consideration of the needs of patients has positioned us for a successful outcome," added Dr. Sandra L. Silberman, M.D., Ph.D., Chief Medical Officer of CNS Pharmaceuticals. "Moreover, the positive feedback we've received from the regulatory authorities across Europe for this trial bolsters confidence in our state-of-the-art trial design and will significantly expand our ability to reach these patients."

The Company's ongoing global study is an adaptive, multicenter, open-label, randomized, controlled study in adult patients with recurrent glioblastoma multiforme (WHO Grade IV) after failure of standard first-line therapy evaluating efficacy and safety of Berubicin. The primary endpoint of this study, being conducted in the United States and Europe, is overall survival (OS), with a projected 243 patients enrolled in a 2:1 randomization design (Berubicin:Lomustine). This study has pharmacokinetic (PK) evaluations of all patients enrolled, with 15 patients undergoing complete PK assessments throughout the dosing period. Patients will be stratified on the basis of MGMT methylation, documentation of IDH mutational status that now defines Grade IV GBM. No prior administration of bevacizumab will be allowed. An interim analysis will evaluate the comparative effectiveness of these treatments, an adaptive design intended to demonstrate that Berubicin's efficacy is at least equal to that of Lomustine such that continuation of the study is in patients' best interests (futility analysis). The overall survival endpoint and sample size have been calculated to be able to show a statistical difference between the two therapies as second line treatment for GBM. Additional studies in malignant diseases of the CNS (e.g., pediatric brain tumors, primary CNS lymphoma, metastatic tumors) are also being explored based on the potential for anthracycline activity in these indications.

For more information about this Berubicin trial, visitclinicaltrials.gov and reference identifier NCT04762069.

About Berubicin

Berubicin is an anthracycline, a class of anticancer agents that are among the most powerful chemotherapy drugs and effective against more types of cancer than any other

class of chemotherapeutic agents. Anthracyclines are designed to utilize natural processes to induce deoxyribonucleic acid (DNA) damage in targeted cancer cells by interfering with the action of topoisomerase II, a critical enzyme enabling cell proliferation. Berubicin treatment of brain cancer patients appeared to demonstrate positive responses that include one durable complete response in a Phase 1 human clinical trial conducted by Reata Pharmaceuticals, Inc. Berubicin, was developed by Dr. Waldemar Priebe, Professor of Medicinal Chemistry at The University of Texas MD Anderson Cancer Center.

About CNS Pharmaceuticals, Inc.

CNS Pharmaceuticals a clinical-stage pharmaceutical company developing a pipeline of anti-cancer drug candidates for the treatment of primary and metastatic cancers of the brain and central nervous system. The Company's lead drug candidate, Berubicin, is a novel anthracycline and the first anthracycline to appear to cross the blood-brain barrier. Berubicin is currently in development for the treatment of a number of serious brain and CNS oncology indications including glioblastoma multiforme (GBM), an aggressive and incurable form of brain cancer.

Additionally, the Company is advancing the development of its WP1244 drug technology portfolio, which utilizes anthracycline and distamycin-based scaffolds to create small molecule agents and is believed to be 500x more potent than daunorubicin in inhibiting tumor cell proliferation. Preclinical studies of WP1244 demonstrated high uptake in the brain with antitumor activity. CNS Pharmaceuticals is evaluating the use of WP1244 in the treatment of brain cancers, pancreatic, ovarian, and lymphomas.

For more information, please visit www.CNSPharma.com, and connect with the Company on Twitter, Facebook, and LinkedIn.

Forward-Looking Statements

Some of the statements in this press release are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995, which involve risks and uncertainties. Forward-looking statements in this press release include, without limitation, whether the results of the previous Phase 1 trial can be replicated in the current clinical trial. These statements relate to future events, future expectations, plans and prospects. Although CNS believes the expectations reflected in such forward-looking statements are reasonable as of the date made, expectations may prove to have been materially different from the results expressed or implied by such forward-looking statements. CNS has attempted to identify forward-looking statements by terminology including "believes," "estimates," "anticipates," "expects," "plans," "projects," "intends," "potential," "may," "could," "might," "will," "should," "approximately" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including those discussed under Item 1A. "Risk Factors" in CNS's most recently filed Form 10-K filed with the Securities and Exchange Commission ("SEC") and updated from time to time in its Form 10-Q filings and in its other public filings with the SEC. Any forward-looking statements contained in this press release speak only as of its date. CNS undertakes no obligation to update any forward-looking statements

contained in this press release to reflect events or circumstances occurring after its date or to reflect the occurrence of unanticipated events.

View original content to download multimedia:https://www.prnewswire.com/news-releases/cns-pharmaceuticals-announces-presentation-of-ongoing-potentially-pivotal-berubicin-clinical-trial-design-at-the-american-society-of-clinical-oncology-asco-2022-annual-meeting-301563622.html

SOURCE CNS Pharmaceuticals, Inc.