Panbela Therapeutics Announces US WorldMeds NDA Approval for Eflornithine (DFMO) in Pediatric Neuroblastoma

MINNEAPOLIS, December 18, 2023 (GLOBE NEWSWIRE) -- Panbela Therapeutics, Inc. (Nasdaq: PBLA), a clinical stage company developing disruptive therapeutics for the treatment of patients with urgent unmet medical needs, today announced that **US WorldMeds®[1]** (USWM), a Kentucky-based specialty pharmaceutical company to whom it divested certain assets in its eflornithine pediatric neuroblastoma program, received FDA approval of its New Drug Application (NDA) for the use of eflornithine as a maintenance therapy for high-risk neuroblastoma patients who have achieved at least a partial response to certain prior therapies.

The approval of USWM's NDA for the use of eflornithine for the treatment of patients with high-risk neuroblastoma marks the first FDA approval of an NDA for any polyamine targeted therapy in a cancer indication. "This approval highlights the role polyamines can play in cancer therapy as we look forward to data from our ongoing programs in metastatic pancreatic cancer, colorectal cancer, non-small cell lung cancer, and prostate cancer and the advancement of pre-clinical programs in ovarian and multiple myeloma," said Jennifer K. Simpson, PhD, MSN, CRNP, President & Chief Executive Officer of Panbela.

In July 2023, Panbela divested its pediatric neuroblastoma program to USWM in an arrangement entitling Panbela to up to approximately $9.5 million of non-dilutive funding, including payments upon USWM's successful completion of milestones related to eflornithine's clinical development, regulatory approval, and commercial sales.

"The FDA's approval of USWM's eflornithine NDA for high-risk neuroblastoma is an exciting milestone in our partnership. This demonstrates the potential for polyamine targeted therapies in cancer," said Jennifer K. Simpson, PhD, MSN, CRNP, President & Chief Executive Officer of Panbela. "This approval is a prerequisite for considerable development milestone payments for Panbela as US WorldMeds continues its efforts to bring eflornithine to the market."

"After many years investigating the role of polyamines and the therapeutic potential of eflornithine in neuroblastoma, it is rewarding to see USWM's success with the FDA's positive review of its NDA for eflornithine," said Elizabeth Bruckheimer, Ph.D., Vice President & Chief

[1] US WORLDMEDS is a registered trademark of USWM, LLC.

Scientific Officer of Panbela, “We are excited about how the USWM NDA approval of eflornithine should help address this high unmet need in patients with neuroblastoma.”

Neuroblastoma, a rare cancer originating from immature nerve cells, contributes to nearly 15% of pediatric cancer deaths.[1] Panbela's subsidiary, Cancer Prevention Pharmaceuticals, extensively collaborated with leading neuroblastoma research groups such as the Neuroblastoma Medulloblastoma Translational Research Consortium (NMTRC) (now Beat Childhood Cancer), New Advances in Neuroblastoma Therapy (NANT), the Children’s Oncology Group (COG), and the National Cancer Institute (NCI) in the clinical development of eflornithine as a treatment for neuroblastoma before the program was divested to USWM.

About Panbela’s Pipeline

The pipeline consists of assets currently in clinical trials with an initial focus on familial adenomatous polyposis (FAP), first-line metastatic pancreatic cancer, neoadjuvant pancreatic cancer, colorectal cancer prevention and ovarian cancer. The combined development programs have a steady cadence of anticipated catalysts with programs ranging from pre-clinical to registration studies.

Ivospemin (SBP-101)

Ivospemin is a proprietary polyamine analogue designed to induce polyamine metabolic inhibition (PMI) by exploiting an observed high affinity of the compound for pancreatic ductal adenocarcinoma and other tumors. It has shown signals of tumor growth inhibition in clinical studies of metastatic pancreatic cancer patients, demonstrating a median overall survival (OS) of 14.6 months and an objective response rate (ORR) of 48%, both exceeding what is typical for the standard of care of gemcitabine + nab-paclitaxel suggesting potential complementary activity with the existing FDA-approved standard chemotherapy regimen. In data evaluated from clinical studies to date, ivospemin has not shown exacerbation of bone marrow suppression and peripheral neuropathy, which can be chemotherapy-related adverse events. Serious visual adverse events have been evaluated and patients with a history of retinopathy or at risk of retinal detachment will be excluded from future SBP-101 studies. The safety data and PMI profile observed in the previous Panbela-sponsored clinical trials provide support for continued evaluation of ivospemin in the ASPIRE trial.

Flynpovi ™

Flynpovi is a combination of CPP-1X (eflornithine) and sulindac with a dual mechanism inhibiting polyamine synthesis and increasing polyamine export and catabolism. In a Phase 3 clinical trial in patients with sporadic large bowel polyps, the combination prevented > 90% subsequent pre-cancerous sporadic adenomas versus placebo. Focusing on FAP patients with lower gastrointestinal tract anatomy in the recent Phase 3 trial comparing Flynpovi to single agent eflornithine and single agent sulindac, FAP patients with lower GI anatomy (patients with an intact colon, retained rectum or surgical pouch), showed statistically significant benefit compared to both single agents ($p \leq 0.02$) in delaying surgical events in the lower GI for up to four years. The safety profile for Flynpovi did not significantly differ from the single agents and supports the continued evaluation of Flynpovi for FAP.

Eflornithine (CPP-1X)
CPP-1X (eflornithine) is being developed as a single agent tablet or high dose powder sachet for several indications including prevention of gastric cancer, treatment of neuroblastoma and recent onset Type 1 diabetes. Preclinical studies as well as Phase 1 or Phase 2 investigator-initiated trials suggest that CPP-1X treatment may be well-tolerated and has potential activity.

About Panbela
Panbela Therapeutics, Inc. is a clinical-stage biopharmaceutical company developing disruptive therapeutics for patients with urgent unmet medical needs. Panbela's lead assets are Ivospemin (SBP-101) and Flynpovi. Further information can be found at **www.panbela.com .** Panbela's common stock is listed on The Nasdaq Stock Market LLC under the symbol "PBLA".

Cautionary Statement Regarding Forward-Looking Statements
This press release contains "forward-looking statements," including within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as: "anticipate," "design," "may," "plan," and "will." Examples of forward-looking statements include statements we make regarding timing of trials and results of collaborations with third parties and future studies. All statements other than statements of historical fact are statements that should be deemed forward-looking statements. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations, and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially and adversely from the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following: (i) our ability to obtain additional funding to execute our business and clinical development plans; (ii) our lack of diversification and the corresponding risk of an investment in our Company; (iii) our ability to maintain our listing on a national securities exchange; (iv) the progress and success of our clinical development program; (v) our ability to demonstrate the safety and effectiveness of our product candidates: ivospemin (SBP-101), Flynpovi, and eflornithine (CPP-1X); (vi) our ability to obtain regulatory approvals for our product candidates, SBP-101, Flynpovi and CPP-1X in the United States, the European Union or other international markets; (vii) the market acceptance and level of future sales of our product candidates, SBP-101, Flynpovi and CPP-1X; (viii) the cost and delays in product development that may result from changes in regulatory oversight applicable to our product candidates, SBP-101, Flynpovi and CPP-1X; (ix) the rate of progress in establishing reimbursement arrangements with third-party payors; (x) the effect of competing technological and market developments; (xi) the costs involved in filing and prosecuting patent applications and enforcing or defending patent claims; and (xii) such other factors as discussed in Part I, Item 1A under the caption "Risk Factors" in our most recent Annual Report on Form 10-K, any

additional risks presented in our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Any forward-looking statement made by us in this press release is based on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement or reasons why actual results would differ from those anticipated in any such forward-looking statement, whether written or oral, whether as a result of new information, future developments or otherwise.

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