



**Panbela Announces Poster Presentation at American Association for Cancer Research:
*Evaluating the potential of spermine analogue ivospemin (SBP-101) in combination with
chemotherapy in ovarian cancer***

MINNEAPOLIS (GLOBE NEWSWIRE) April 19, 2023 -- Panbela Therapeutics, Inc. (Nasdaq: PBLA), a clinical stage biopharmaceutical company developing disruptive therapeutics for the treatment of patients with urgent unmet medical needs announces a poster presentation highlighting the results for ivospemin (SBP-101) as a polyamine metabolism modulator in ovarian cancer at the American Association for Cancer Research (AACR), taking place April 14-19, 2023. The work reflects the Company's ongoing collaboration with Johns Hopkins University School of Medicine.

"The treatment of C57Bl/6 mice injected with VDI8+ ovarian cancer with SBP-101 in combination with chemotherapy was observed to significantly prolong survival and decrease overall tumor burden," said Jennifer K. Simpson, PhD, MSN, CRNP, President & Chief Executive Officer of Panbela. "The continued work by collaborators at Johns Hopkins University School of Medicine is providing key data to support our efforts to initiate an ovarian cancer program this year."

"The results suggest that SBP-101 in combination with doxorubicin may have a role in the clinical management of ovarian cancer, in particular the platinum-resistant population where few options exist," said Dr. Simpson. "These studies are the basis for moving into a clinical trial program in ovarian cancer with a goal of developing effective novel therapeutics in combination with standard of care for patients with unmet medical needs."

The poster highlights the efficacy of SBP-101 in combination with standard of care chemotherapy agents used to treat platinum-resistant ovarian cancer. Treatment with gemcitabine, topotecan, and doxorubicin have been shown to significantly increase the *in vitro* toxicity of SBP-101 in both cisplatin-sensitive and cisplatin-resistant ovarian cancer cell lines. Paclitaxel and docetaxel have been shown to not have any added benefit *in vitro* to SBP-101 alone.

Utilizing the VDI8+ murine ovarian cancer model (ID8+ C57Bl/6 ovarian cells overexpressing both VEGF and Defensin), the efficacy of SBP-101 in combination with either gemcitabine, topotecan, or doxorubicin was evaluated. Gemcitabine and topotecan alone had little effect on the overall survival of the mice, whereas either SBP-101 or doxorubicin treatment alone significantly increased median mouse survival time. The addition of SBP-101 improved the survival of mice treated with any of the three chemotherapeutics. The SBP-101 and doxorubicin combination mice had the greatest survival time with a 265% increase in median survival compared to untreated animals.

Additionally, combining DFMO with ivospemin *in vitro* resulted in a cooperative antiproliferative response. DFMO has been shown to be well tolerated and can influence immune cells to promote a more immune-friendly tumor microenvironment. Future experiments will evaluate the effect of adding DFMO to ivospemin treatment as well as the influence on immune cells within the tumor microenvironment.

The poster concludes that the treatment of C57Bl/6 mice containing VDID8⁺ ovarian cancer with SBP-101 in combination with doxorubicin significantly prolonged survival and decreased overall tumor burden. Future studies will be designed to evaluate the effects of SBP-101 in combination with other polyamine metabolism modulators as well as with immune modulators.

Details of the presentation are as follows:

Poster Presentation

Title: Evaluating the efficacy of spermine analogue ivospemin (SBP-101) in combination with chemotherapy in ovarian cancer

Session Category: Experimental and Molecular Therapeutics

Session Title: Novel Antitumor Agents, PI3K/AKT Inhibitors, Proteasome Inhibitors, and Topoisomerases Abstract #: 4944

Additional meeting information can be found on the AACR website:

<https://www.aacr.org/meeting/aacr-annual-meeting-2023/>

The poster will also be available on the Company's website at <https://panbela.com/events-presentations/>

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.

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," "believe," "can," "design," "expect," "focus," "intend," "may," "plan," "positioned," "potential," and "will." 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) progress and success of our clinical

development program; (iii) the impact of the current COVID-19 pandemic on our ability to conduct our clinical trials; (iv) our ability to demonstrate the safety and effectiveness of our product candidates: ivospemin (SBP-101) and eflornithine (CPP-1X); (v) our reliance on a third party for the execution of the registration trial for our product candidate Flynnovi; (vi) our ability to obtain regulatory approvals for our product candidates, SBP-101 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 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 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; (xii) our ability to maintain the listing of our common stock on a national securities exchange; and (xiii) 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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