Press Release

JBI-802 initial Phase I data suggests therapeutic potential in sensitizing immunotherapy resistant tumors and in Myeloproliferative Neoplasms with thrombocytosis

Bedminster, New Jersey, United States, January 8, 2024: Jubilant Therapeutics Inc., a clinical-stage biotechnology company pioneering the development of a first-in-class CoREST (Co-repressor of Repressor Element-1 Silencing Transcription) inhibitor JBI-802 with the dual activity on LSD1 and HDAC6, today announced preliminary safety, pharmacokinetic and initial efficacy results of the Phase I trial in advanced cancer patients. Furthermore, the study results provide a human proof of principle for expanding the development of JBI-802 in Essential Thrombocythemia (ET) and related Myeloproliferative Neoplasms (MPN/MDS) with thrombocytosis.

The data from first 11 patients with advanced cancer revealed a dose-proportional increase in exposure across cohorts and a strong correlation between the exposure and the on-target effects of platelet decrease, indicating that pharmacological relevant level of LSD1 inhibition have been achieved. At the same time, platelet decrease is the only adverse event above grade 1 observed in these patients, which differentiates JBI-802 from LSD1-only inhibitors. Specifically, no AEs (Adverse Events) of anemia has been observed, which is potentially due to the positive benefit of inhibition of HDAC6 in erythrocytes. Also, there are no reports of Dysgeusia, an adverse event that has been observed with LSD1-only inhibitors.

Among the 11 patients, two were NSCLC (Non-small Cell Lung Cancer) patients, both had progressed on doublet immunotherapy, nivolumab+ipilimumab as first line treatment and both showed anti-tumor activity. Both the patients were treated at lower dose level (10mg) where no relevant decrease of platelets is seen, suggesting that in patients with sensitive tumors this dose can be pharmacologically active with a desirable safety profile.

Both NSCLC patients had failed first line treatment with doublet immunotherapy, nivoluman/ipilumab prior to enrolling in the JBI-802 study. The first patient had a STK11 mutation, known to decrease the effectiveness of immunotherapy, present in around 10% of NSCLC patients (higher frequency in lung adenocarcinoma). JBI-802 showed a confirmed partial response in this IO-refractory NSCLC patient with a 39% decrease in the target lung tumor mass. The tumor shrinkage outcome was accompanied by a complete resolution of pancoast syndrome (lung lesion affecting the nerves of brachial plexus). The response appears to be durable after nine cycles and the patient remains on JBI-802 therapy.

The second patient had both lung lesion and liver metastasis, which are known to confer resistance to immunotherapy and lead to poor prognosis. Treatment with JBI-802 resulted in over 50% shrinkage of the patient's liver metastasis and a complete resolution of related portal hypertension, edema and improvement of quality of life.

Dr. Alexander Starodub, The Christ Hospital - Cincinnati, treating physician for the above patients commented "The anti-tumor activity seen in these two NSCLC patients is remarkable given the poor prognosis based on their genetic and metastatic pattern. The 10 mg dose of JBI-802 was well-tolerated without any clinically significant adverse effects and the initial clinical data suggest a good therapeutic index for JBI-802".

Preclinical studies showed a synergistic anti-tumor effect by combining immunotherapy and JBI-802 in xenograft models. In addition, the CoREST inhibition was reported to sensitize immunotherapy resistant tumors, especially those with STK11 mutations. Taken together, the preliminary efficacy data from the JBI-802 Phase I study suggest the opportunity that a combination between immunotherapy and JBI-802 could bring a new therapy option to such patient populations with limited treatment options.

In addition, the on-target dose/exposure-proportional decrease in platelet constitute a proof-of-principle that JBI-802 can be an active compound in hematological malignancies like Essential Thrombocythemia (ET) and other MPN/ MDS characterized by thrombocytosis. A follow up Phase I/II study in MPN/ET and MPN/MDS with thrombocytosis is being planned in the first quarter of this year to investigate JBI-802 as potential novel treatment option.

About Jubilant Therapeutics Inc.

Jubilant Therapeutics Inc. is a clinical stage biopharmaceutical company developing precision oral medicines with enhanced therapeutic index to address unmet medical needs in oncology and autoimmune diseases for genetically defined patients. Its advanced structure-based discovery engine, TIBEO (Therapeutic Index and Brain Exposure Optimization), has been validated through successful partnerships including with Blueprint Medicines for a brain penetrant EGFR Exon-20 program. The Company's pipeline consists of a first in class dual coREST modifier, JBI-802, currently in a Phase I/II clinical trial in multiple tumors, a novel brain-penetrant modulator of PRMT5 for which an IND has been accepted, brain penetrant and gut restrictive PDL1 inhibitors, as well as PAD4 inhibitors for oncology and inflammatory indications. The Company is headquartered in Bedminster, New Jersey and guided by globally renowned scientific advisors.

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