Ivy Brain Tumor Center Announces Interim Results of a Phase 0 ‘Trigger’ Trial of Targeted Combination Therapy for Glioblastoma

Results to be presented at 2021 ASCO Annual Meeting demonstrate that Abemaciclib and LY3214996 achieve pharmacologically-relevant concentrations in Gd-non-enhancing GBM tissue

Ongoing study will accrue an additional 25 patients at the Optimal Time Interval (OTI) identified for tissue sampling

PHOENIX, Ariz., June 4, 2021 -- The Ivy Brain Tumor Center at Barrow Neurological Institute, the largest early-phase drug development program for brain cancer in the world, has announced initial results from an ongoing, dual-drug Phase 0 study (NCT04391595) evaluating the tumor pharmacokinetics (PK) and tumor pharmacodynamics (PD) of abemaciclib, a selective CDK4/6-inhibitor, plus LY3214996, a selective ERK1/2 inhibitor, in recurrent glioblastoma patients.

The results of this study were published online in the ASCO Meeting Library and will be presented on June 7, 2021 at the American Society of Clinical Oncology (ASCO) Virtual Annual Meeting during an oral abstract session on Central Nervous System Tumors.

“Phase 0 studies are starkly underutilized in neuro-oncology. Over the last 50 years, only 22 publications examined drug pharmacodynamics and/or pharmacokinetics in glioblastoma patients,” said Nader Sanai, MD, director of the Ivy Brain Tumor Center and director of neurosurgical oncology at Barrow Neurological Institute. “Our strategy is to identify agents that tackle the roadblock of the blood-brain barrier and build upon those agents in drug combinations.”

In this ongoing Phase 0 study, patients receive six days of abemaciclib in combination with LY3214996 leading up to a timed brain tumor resection following the final dose. To obtain the Optimal Time Interval (OTI) at which to capture PK/PD endpoints following the dosing of the drugs, patients were enrolled in two surgical time cohorts: 3-5 hours and 7-9 hours.

PK and PD analyses are performed on the tumor tissue samples collected at the time of resection to measure the unbound concentration of each drug and its metabolites. If the minimum threshold for adequate and pharmacologically relevant penetration is met for both drugs, a ‘trigger’ is activated and the patient goes on to the Phase 2 component of the trial in which they receive the drug combination daily until progression.

To date, 19 patients have enrolled in this Phase 0 clinical trial and six patients have advanced to Phase 2. Initial data suggests abemaciclib and LY3214996 achieve pharmacologically-relevant concentrations in Gd-non-enhancing GBM tissue and are associated with suppression of the RB pathway and tumor proliferation. Following six days of presurgical drug exposure, the OTI for
tissue sampling was determined to be 3-5 hours after the final drug dose. Based on this interim analysis, the trial will accrue an additional 25 patients at this OTI.

This study is funded by the Ben and Catherine Ivy Foundation, in partnership with the Barrow Neurological Foundation. Additional clinical trial information can be found at NCT04391595 or the Ivy Brain Tumor Center’s website.

###

**About Ivy Brain Tumor Center**

Ivy Brain Tumor Center at the Barrow Neurological Institute in Phoenix, AZ is a non-profit translational research program that employs a bold, early-phase clinical trials strategy to identify new treatments for aggressive brain tumors, including glioblastoma. The Ivy Center’s Phase 0 clinical trials program is the largest of its kind in the world and enables personalized care in a fraction of the time and cost associated with traditional drug development. Unlike conventional clinical trials focusing on single drugs, its accelerated trials program tests therapeutic combinations matched to individual patients. Learn more at IvyBrainTumorCenter.org. Follow the Ivy Brain Tumor Center on Facebook, Instagram, Twitter and LinkedIn.

**For media inquiries:**
Melinda Langdon  
Melinda.Langdon@IvyBrainTumorCenter.org  
(623) 297-1317

**For patient inquiries:**
Research@IvyBrainTumorCenter.org  
602-406-8605