X4 Pharmaceuticals Announces FDA Allowance of X4P-001 IND for Phase 1b/2a Study of in Refractory Clear Cell Renal Cell Carcinoma

December 14, 2015

CXCR4 inhibitor offers novel immuno-oncology and anti-angiogenic approach to the treatment of ccRCC

Cambridge, Mass. – December 14, 2015 – X4 Pharmaceuticals, a clinical stage biotechnology company developing novel CXCR4 inhibitor drugs to improve immune cell trafficking and increase the ability for T-cells to track and destroy cancer, today announced U.S. Food and Drug Administration (FDA) allowance of the Company's Investigational New Drug (IND) application for the clinical study of X4P-001, the company's lead drug candidate, in patients with refractory clear cell renal cell carcinoma (ccRCC). X4P-001 is a CXCR4 inhibitor designed to block non-cancerous immunosuppressive and pro-angiogenic cells from populating the tumor microenvironment, thereby restoring anti-tumor immune function.

The first patient in the Phase 1b/2a study is expected to be dosed in Q1 2016 and the study will take place at multiple cancer centers with leading renal cell carcinoma research located in the United States. The Phase 1b portion of the trial will test the safety and tolerability of escalating doses of X4P-001 in combination with axitinib, a multi-kinase inhibitor approved for the treatment of patients with ccRCC, with the goal of establishing a maximum tolerated dose (MTD), or a recommended dose if the MTD is not achieved, for the combination. The subsequent Phase 2a portion of the trial is a randomized dose-ranging study that will explore two dose-levels of X4P-001, both in combination with axitinib. In addition to safety and tolerability, the Phase 2a portion of the trial will evaluate early signs of biological activity using biomarkers, and clinical efficacy as measured by overall response rate and progression free survival over an 18 month time frame.

"Despite the recent advances made by VEGF targeted therapies and immunotherapies, many patients with ccRCC will require additional treatment options," said Michael Atkins, MD, Deputy Director of the Georgetown-Lombardi Comprehensive Cancer Center and Professor of Oncology and Medicine at Georgetown University School of Medicine, and the Principal Investigator of X4's Phase 1b/2a study. "Antagonism of the CXCR4 pathway has the potential to act synergistically with existing therapies, with the goal of achieving more durable tumor responses."

CXCR4, or C-X-C receptor type 4, is the receptor for the chemokine CXCL12 (also known as stromal derived factor-1, or SDF-1). The CXCR4/CXCL12 pathway has been shown to play a central role in the trafficking of key immune cells such as T-effector and T-regulatory cells, as well as myeloid derived suppressor cells (MDSCs), in the tumor microenvironment. Recent studies demonstrate that CXCR4/CXCL12 is a primary receptor-ligand pair that cancer cells and surrounding stromal cells use to block normal immune function and promote angiogenesis. [1, 2] Inhibition of CXCR4 has the potential to impact multiple mechanism of tumor growth, progression and immune surveillance.

"Pre-clinical studies have shown CXCR4 inhibition acts synergistically with approved cancer therapies including tyrosine kinase inhibitors and checkpoint inhibitors resulting in an increased tumor-specific immune response and significant delays in tumor growth," said Paula Ragan, PhD, President and CEO of X4. "FDA allowance of our IND is an important milestone for us to advance novel drugs targeting this key mechanism, allowing us to understand the clinical translation and potential impact for patients. We look forward to beginning our first clinical study and to working toward our goal of offering patients with refractory ccRCC more effective treatment options."

About Renal Cell Carcinoma

Kidney cancer is among the ten most common cancers in both men and women with more than 60,000 new diagnoses each year in the United States.[3] Clear cell renal cell carcinoma (ccRCC) is the most common form of kidney cancer, and advanced ccRCC accounts for approximately 20% of the patient population. Therapies for advanced ccRCC include immunotherapies, mammalian target of rapaymcin (mTOR) kinase inhibitors, and angiogenesis inhibitors, such as vascular endothelial growth factor (VEGF) inhibitors.[4] There continue to be unmet medical needs with advanced ccRCC because durable responses remain a serious clinical challenge for patients with advanced disease.

About X4 Pharmaceuticals

X4 Pharmaceuticals is developing novel therapeutics designed to improve immune cell trafficking and increase the ability for T-cells to track and destroy cancer cells. The company's oral small molecule drug candidates inhibit the CXCR4 receptor, a pathway which plays a central role in promoting the immunosuppressive and pro-angiogenic microenvironment of many cancers. X4P-001, the company's lead program, is expected to enter Phase 1/2 testing in refractory clear cell renal cell carcinoma (ccRCC) and other solid tumor indications, and its second program, X4P-002, is in pre-clinical development for oncology applications. X4 was founded and is led by a team with deep product development and commercialization expertise, including several former members of the Genzyme leadership team, and is located in Cambridge, MA.

[1] Feig C., et. al., "Targeting CXCL12 from FAP-expressing carcinoma-associated fibroblasts synergizes with anti-PD-L1 immunotherapy in pancreatic cancer," PNAS, Oct. 31, 2013.

[2] Guo F., et. al., "CXCL12/CXCR4: a symbiotic bridge linking cancer cells and their stromal neighbors to oncogenic communication networks," Oncogene, May 11, 2015.

[3] National Cancer Institute, "Surveillance, Epidemiology, and End Results Program," http://seer.cancer.gov/statfacts/html/kidrp.html

[4] Kidney Cancer Association, “Therapies for Advanced Kidney Cancer,” http://www.kidneycancer.org/knowledge/learn/therapies-for-advanced-kidney-cancer/

Media Contact:
Kathryn Morris
The Yates Network
Tel: 845-635-9828
kathryn@theyatesnetwork.com