June 3, 2019

BioXcel Therapeutics Announces FDA Clearance of IND Application for Triple Combination in Pancreatic Cancer and CTA Acceptance for Double Combination in Aggressive Form of Prostate Cancer (tNEPC) for Lead Immuno-Oncology Program, BXCL701

• FDA clearance of IND for BXCL701 triple combination therapy with Nektar's bempegaldesleukin and BAVENCIO® (avelumab, Merck KGaA, Darmstadt, Germany and Pfizer) in pancreatic cancer

• MHRA (U.K. Medicines and Healthcare products Regulatory Agency) accepts clinical application for double combination trial of BXCL701 and Keytruda® in tNEPC patients

NEW HAVEN, Conn., June 03, 2019 (GLOBE NEWSWIRE) -- BioXcel Therapeutics, Inc. (BTI) (Nasdaq: BTAI), today announced an update of its immuno-oncology program for BXCL701, an orally-available systemic innate-immune activator with dual mechanisms of action. BTI is a clinical-stage biopharmaceutical development company utilizing novel artificial intelligence approaches to identify and advance the next wave of medicines in neuroscience and immuno-oncology.

BTI is pleased to report that its Investigational New Drug (IND) application has received clearance from the U.S. Food and Drug Administration (FDA) to start a clinical trial to evaluate the triple combination of BXCL701, bempegaldesleukin and avelumab (*BAVENCIO®)* for the treatment of pancreatic cancer as a second line therapy. BTI is collaborating with Nektar Therapeutics, Merck KGaA, Darmstadt, Germany and Pfizer to conduct this trial. Louis M. Weiner, M.D., Director of Georgetown Lombardi Comprehensive Cancer Center, a National Cancer Institute (NCI)-designated comprehensive cancer center, will serve as the Principal Investigator.

In addition, BTI is also delighted to announce the acceptance of the Company's clinical trial authorization (CTA) by the UK's MHRA of a trial evaluating the combination of BXCL701 and pembrolizumab (Keytruda®) in tNEPC (treatment emergent neuroendocrine prostate cancer). Under the supervision of the European Principal Investigator, Professor Johann de Bono, M.D., Ph.D. of The Royal Marsden NHS Foundation Trust and The Institute of Cancer Research, BTI plans to open its Phase 1b/2 study of BXCL701 and Keytruda® in tNEPC, a hormone-refractory form of prostate cancer, in the UK. BTI currently believes that no viable

treatment option exists for this type of cancer. The Company has opened multiple sites in the US, and data from the open-label trial is expected to support the ongoing global clinical development of BXCL701.

Vincent O'Neill, M.D., Senior Vice President & Chief Medical Officer, commented, "We are excited to be able to proceed with site activation and enrollment for our triple combination study in second line pancreatic cancer. In addition, we are pleased with the progress made in expanding our global footprint for clinical sites for our tNEPC study. Both of these conditions sadly remain challenging, creating significant unmet medical needs. We eagerly await data that will help define the role of BXCL701 in these conditions."

Chetan Lathia, Ph.D., Senior Vice President & Head, Translational Medicine, Clinical Pharmacology & Regulatory Affairs, added, "We are very excited to receive FDA clearance of the IND application, for the combination of BXCL701, bempegaldesleukin and avelumab in pancreatic cancer. In addition, we are gratified with the MHRA approval of the CTA of a trial evaluating the combination of BXCL701 and Keytruda® in tNEPC patients. This approval reflects BTI's initial step in seeking regulatory approvals, to conduct clinical trials, around the world for products under development."

About pancreatic cancer
Pancreatic cancer is a disease in which malignant (cancer) cells are found in the tissues of the pancreas. According to the American Cancer Society, pancreatic cancer accounts for approximately 3% of all cancers in the U.S. and approximately 7% of all cancer deaths. Advanced pancreatic cancer is particularly aggressive, with a five-year survival rate of less than 10%. Limited therapeutic options are currently available for this indication, further reinforcing the need to develop new therapeutic strategies and rational drug combinations aimed at improving overall patient outcomes and quality of life.

About Treatment-emergent neuroendocrine prostate cancer (tNEPC)
tNEPC is a hormone-refractory manifestation of prostate cancer occurring secondary to treatment with androgen deprivation therapies such as Zytiga® (Johnson & Johnson) and Xtandi® (Pfizer). This form of highly aggressive tumor, with no current treatment, is observed in approximately 20-30% of patients treated with androgen inhibitors and has a median survival time of less than one year. Single agent checkpoint inhibitor therapy produces very low response rates in hormone refractory prostate cancer, creating a major unmet medical need for tNEPC patients.

About BXCL701
BXCL701 is an investigational orally-available systemic innate-immune activator with dual mechanisms of action. It has demonstrated single agent activity in melanoma and safety has been evaluated in more than 700 healthy subjects and cancer patients. Designed to stimulate both the innate and acquired immune systems, BXCL701 works by inhibiting dipeptidyl peptidase (DPP) 8/9 and blocking immune evasion by targeting Fibroblast Activation Protein (FAP). Preclinical combination data evaluating BXCL701, a checkpoint inhibitor and other immuno-oncology agents has demonstrated encouraging anti-tumor activity in multiple tumor types and formation of functional immunological memory. BXCL701's primary mechanism of action has recently been highlighted in multiple peer reviewed journals, providing an important validation of the scientific rationale behind BXCL701.

About BioXcel Therapeutics, Inc.:
BioXcel Therapeutics, Inc. is a clinical stage biopharmaceutical company focused on drug development that utilizes novel artificial intelligence approaches to identify the next wave of medicines across neuroscience and immuno-oncology. BTI's drug re-innovation approach leverages existing approved drugs and/or clinically validated product candidates together with big data and proprietary machine learning algorithms to identify new therapeutic indices. BTI's two most advanced clinical development programs are BXCL501, a sublingual thin film formulation designed for acute treatment of agitation resulting from neurological and psychiatric disorders, and BXCL701, an immuno-oncology agent designed for the treatment of prostate cancer and for treatment of pancreatic cancer. For more information, please visit www.bioxceltherapeutics.com.

Avelumab Approved Indications

Avelumab (BAVENCIO®) in combination with axitinib is indicated in the US for the first-line treatment of patients with advanced renal cell carcinoma (RCC).

The US Food and Drug Administration (FDA) also granted accelerated approval for avelumab (BAVENCIO®) for the treatment of (i) adults and pediatric patients 12 years and older with metastatic Merkel cell carcinoma (mMCC) and (ii) patients with locally advanced or metastatic urothelial carcinoma (mUC) who have disease progression during or following platinum-containing chemotherapy, or have disease progression within 12 months of neoadjuvant or adjuvant treatment with platinum-containing chemotherapy. These indications are approved under accelerated approval based on tumor response rate and duration of response. Continued approval for these indications may be contingent upon verification and description of clinical benefit in confirmatory trials.

Avelumab is currently approved for patients with MCC in more than 45 countries globally, with the majority of these approvals in a broad indication that is not limited to a specific line of treatment.

Avelumab Important Safety Information from the US FDA-Approved Label

The warnings and precautions for avelumab (BAVENCIO®) include immune-mediated adverse reactions (such as pneumonitis and hepatitis [including fatal cases], colitis, endocrinopathies, nephritis and renal dysfunction and other adverse reactions [which can be severe and have included fatal cases]), infusion-related reactions, major adverse cardiovascular events (MACE), and embryo-fetal toxicity.

Common adverse reactions (reported in at least 20% of patients) in patients treated with BAVENCIO® include fatigue, musculoskeletal pain, diarrhea, nausea, infusion-related reaction, peripheral edema, decreased appetite/hypophagia, urinary tract infection and rash. Additional common adverse reactions reported in patients receiving BAVENCIO® in combination with axitinib include hypertension, mucositis, palmar-plantar erythrodysesthesia, dysphonia, hypothyroidism, hepatotoxicity, cough, dyspnea, abdominal pain, and headache. Clinical chemistry and hematology laboratory value abnormalities have been reported including but not limited to grade 3-4 lymphopenia, anemia, elevated cholesterol and liver enzymes.

For full Prescribing Information and Medication Guide for BAVENCIO®, please see

www.BAVENCIO.com

Forward-Looking Statements

This press release includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements in this press release include, but are not limited to, statements that relate to the advancement and development of BXCL701, the commencement of clinical trials, the availability and results of data from clinical trials and other information that is not historical information. When used herein, words including “anticipate”, “being”, “will”, “plan”, “may”, “continue”, and similar expressions are intended to identify forward-looking statements. In addition, any statements or information that refer to expectations, beliefs, plans, projections, objectives, performance or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking. All forward-looking statements are based upon BTI's current expectations and various assumptions. BTI believes there is a reasonable basis for its expectations and beliefs, but they are inherently uncertain.

BTI may not realize its expectations, and its beliefs may not prove correct. Actual results could differ materially from those described or implied by such forward-looking statements as a result of various important factors, including, without limitation, its limited operating history; its incurrence of significant losses; its need for substantial additional funding and ability to raise capital when needed; its limited experience in drug discovery and drug development; its dependence on the success and commercialization of BXCL501 and BXCL701 and other product candidates; the failure of preliminary data from its clinical studies to predict final study results; failure of its early clinical studies or preclinical studies to predict future clinical studies; its ability to receive regulatory approval for its product candidates; its ability to enroll patients in its clinical trials; its approach to the discovery and development of product candidates based on EvolverAI is novel and unproven; its exposure to patent infringement lawsuits; its ability to comply with the extensive regulations applicable to it; its ability to commercialize its product candidates; and the other important factors discussed under the caption “Risk Factors” in its Quarterly Report on Form 10-Q for the period ended March 31, 2019 as such factors may be updated from time to time in its other filings with the SEC, which are accessible on the SEC’s website at www.sec.gov.

These and other important factors could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements represent management’s estimates as of the date of this press release. While BTI may elect to update such forward-looking statements at some point in the future, except as required by law, it disclaims any obligation to do so, even if subsequent events cause our views to change. These forward-looking statements should not be relied upon as representing BTI’s views as of any date subsequent to the date of this press release.

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