Immuneering Reports Compelling Preclinical Data on IMM-1-104 in NRAS Mutant Melanoma Model And Will Host Key External Expert Investor Event

January 6, 2022

Preclinical Data Suggest IMM-1-104 May Offer Unique Therapeutic Advantage Compared with Binimetinib in NRAS Mutant Tumors

Data to be discussed in Key External Expert event on January 6 2022, 5PM Eastern Time

CAMBRIDGE, Mass., Jan. 06, 2022 (GLOBE NEWSWIRE) -- Immuneering Corporation (Nasdaq: IMRX), a biopharmaceutical company advancing a robust pipeline of oncology and neuroscience product candidates that are designed to uniquely disrupt cellular signaling dynamics, today announced preclinical data highlighting the potential of its lead product candidate, IMM-1-104, to inhibit tumor growth in NRAS mutant melanoma models. The data were submitted as a poster presentation at the recently postponed American Association for Cancer Research (AACR) Special Conference: Targeting RAS (originally scheduled for January 7-10, 2022). Given that abstracts are not being published at this time due to postponement of the event, Immuneering is making available the data in a presentation titled *"Head-to-Head Comparison of the Dual-MEK Inhibitor IMM-1-104 Versus Binimetinib in NRAS Mutant Melanoma Models," by Peter King, PhD, Vice President and Head of Discovery at Immuneering* on its website (**www.immuneering.com/publications/**).

IMM-1-104 is a novel, allosteric dual-MEK inhibitor that is designed to disrupt phosphorylation of both MEK and its downstream target ERK and has a short plasma drug half-life, with the aim of enabling deep cyclic inhibition with a near-zero drug trough. The Company anticipates submission of an Investigational New Drug application (IND) for IMM-1-104 to the U.S. Food and Drug Administration (FDA) in the third quarter of this year.

"These compelling data add to the growing body of preclinical evidence in support of IMM-1-104's potential to inhibit tumors driven by the MAPK pathway including KRAS and NRAS mutant tumors. This is especially important because existing drugs targeting this pathway often are limited by toxicity or are narrowly focused on subpopulations with specific mutations," said Ben Zeskind, Ph.D., Co-Founder, President and Chief Executive Officer of Immuneering. "We look forward to evaluating IMM-1-104 in human clinical trials, with plans to enroll the first patient in the fourth quarter of this year. The preclinical data we are sharing today further support IMM-1-104's differentiation from previously developed therapies, and showcase the potential of its deep cyclic inhibition mechanism to achieve our goal of selectively impacting RAS mutant tumors with greater durability and reduced overall toxicity."

In this preclinical study, Immuneering modeled binimetinib versus IMM-1-104 in SK-MEL-2 *in vivo*. SK-MEL-2 is a melanoma tumor cell line that displays a similar molecular profile to approximately half of the patients who participated in the Phase 3 NEMO study, displaying an NRAS-Q61R mutation. The NEMO study results showed binimetinib did not improve overall survival compared with dacarbazine (11.0 vs. 10.1 months, respectively) in NRAS mutant melanoma patients and, in fact, showed a 50% increase in serious adverse events (34% vs. 22%, respectively)[1].

[1] Lancet Oncol. 2017 Apr. 18(4): 435-445

Immuneering researchers tested IMM-1-104 head-to-head compared with binimetinib across a series of preclinical experiments to better understand differential *in vivo* and *in vitro* activity of each compound. Cell-based 2D and 3D *in vitro* biochemical and pharmacologic assays were performed across nine melanoma models. The SK-MEL-2 melanoma xenograft mouse model was used to evaluate single agent activity of IMM-1-104 (50, 100, 125, 150 mg/kg BID p.o.) compared with binimetinib (3, 10, 30 mg/kg BID p.o.) for 21 days treatment after tumors had reached 150 to 200 mm^2.

Head-to-head comparison *in vivo* showed binimetinib had little effect on curtailing growth of SK-MEL-2 melanoma tumors (Tumor Growth Inhibition (TGI) range = 20.6% to 35.6%), whereas IMM-1-104 resulted in 74.9% to 99.9% TGI, with the top two doses driving mid-cycle regressions.

Dr. King concluded, "Collectively, our data suggest that binimetinib may not effectively control MAPK pathway reactivation in RAS mutant tumors whereas the deep, cyclic dual-MEK approach of IMM-1-104 may offer a unique therapeutic advantage over first generation MEK inhibitors in this indication."

Immuneering will be hosting a Key External Expert Event, which will review the data. Event details are below:

Title: Better Medicines for NRAS Mutations Through Signaling Dynamics

Day/Time: Thursday Jan 6 2022, 5PM ET - 6PM ET

Key External Expert Presenter: Dr. Anna Pavlick, BSN, MSc, DO, MBA, Professor of Medicine in the Division of Hematology & Medical Oncology at Weill Cornell Medicine

Registration: https://onlinexperiences.com/Launch/QReg/ShowUUID=32DFF896-4D52-496E-93BB-4A34DE05B0A2

The poster in its entirety can be accessed via the Immuneering website for 30 days at https://immuneering.com/publications/.

A replay of the Key External Expert event can be accessed via the Immuneering IR website for 30 days at https://ir.immuneering.com/news-events/events-presentations.

Presenter Bio: Anna Pavlick, BSN, MSc, DO, MBA is a medical oncologist with over 20 years of experience treating patients with skin cancer, including melanoma, basal cell cancer, squamous cell cancer and Merkel cell carcinoma. She is also an expert in treating ocular melanoma, eyelid tumors and other rare solid tumor malignancies, including a research interest in neurofibromatosis-1 (NF1) malignancies. Dr. Pavlick is Professor of Medicine in the Division of Hematology & Medical Oncology at Weill Cornell Medicine. She is the founding Director of the Cutaneous Oncology Program at Weill Cornell Medicine and NewYork-Presbyterian. Dr. Pavlick's major research interests include investigating targeted therapies, combination therapies and immunotherapies.

Dr. Pavlick earned her medical degree from the University of Medicine and Dentistry of New Jersey (UMDNJ)-Robert Wood Johnson Medical School; her Master of Science in Human Anatomy from Fairleigh Dickinson University; and her Bachelor of Science in Biology and Nursing degree from Fairfield University. She completed an internal medicine residency at UMDNJ and hematology and oncology fellowship training at Memorial Sloan Kettering Cancer Center. In addition to her undergraduate and medical training, Dr. Pavlick graduated from the Drexel School of Medicine Executive Leadership in Academic Medicine in 2012 and earned her Master of Business Administration (MBA) degree from Columbia University Business School in 2017. Dr. Pavlick has authored and co-authored over 100 publications and presented her research at international meetings. She serves on several editorial boards, including The Journal of Drugs in Dermatology and The Journal of ImmunoTherapeutics of Cancer (Associate Editor). She is a member of leading oncology societies including American Society of Clinical Oncology (ASCO), American Academy of Clinical Research (AACR), the Society for Melanoma Research, Society for Immunotherapy and Translational Research in Cancer and the European Society of Medical Oncology (ESMO).

About Immuneering Corporation
Immuneering is a biopharmaceutical company with an emerging pipeline focused on improving patient outcomes across a spectrum of debilitating oncologic and neurologic diseases by applying its deep knowledge of translational bioinformatics to every stage of the drug development process. Immuneering has more than a decade of experience in translational bioinformatics and generating insights into drug mechanisms of action and patient treatment responses. Building on this experience, Immuneering has developed a disease-agnostic platform that enables the company to utilize human data, novel biology and chemistry, and translational planning to create and advance its wholly owned pipeline. Immuneering's current development programs in oncology are focused on providing potential treatments for patients with solid tumors caused by mutations of oncologic signaling pathways, including the MAPK pathway. Immuneering's lead product candidate, IMM-1-104, is designed to be a highly selective dual-MEK inhibitor that further disrupts KSR for the treatment of advanced solid tumors in patients harboring RAS mutant tumors. Additionally, Immuneering has six other oncology programs in the discovery stage that are designed to target either the MAPK or mTOR pathway, and two neuroscience programs in the discovery stage.

Forward-Looking Statements

This press release includes certain disclosures that contain "forward-looking statements," including, without limitation, statements regarding Immuneering's progress toward drugs targeting cancers driven by alterations that activate the RAS/MAPK pathway, the treatment potential of IMM-1-104, including in comparison to existing treatments, the timing of regulatory filings for IMM-1-104 with the FDA and commencement of clinical trials for IMM-1-104. Forward-looking statements are based on Immuneering's current expectations and are subject to inherent uncertainties, risks and assumptions that are difficult to predict. Factors that could cause actual results to differ include, but are not limited to, the risks inherent in oncology and neuroscience drug development, including target discovery, target validation, lead compound identification, lead compound optimization, preclinical studies and clinical trials. These and other risks and uncertainties are described more fully in the section titled "Risk Factors" in the Company's most recent Form 10-Q filed with the U.S. Securities and Exchange Commission (SEC) as well as in Immuneering's subsequent filings it makes with the SEC. Forward-looking statements contained in this announcement are made as of this date, and Immuneering undertakes no duty to update such information except as required under applicable law.

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