X-Chem and MD Anderson Cancer Center Enter Partnership to Discover Novel, Small Molecule Therapies for Cancer

-- Partnership Deploys X-Chem’s DEX™ Platform and Proprietary Library Exceeding 100 Billion Compounds to Discover Small Molecule Drug Leads for MD Anderson’s Novel Cancer Targets --

WALTHAM, Mass. – January 6, 2016 – X-Chem, Inc., a privately held biotechnology company with a proprietary and innovative platform to generate small molecule therapeutics, today announced a multi-target agreement with The University of Texas MD Anderson Cancer Center. The goal of the partnership is to identify and develop novel agents for the treatment of cancer. Under the collaboration researchers from MD Anderson’s Institute for Applied Cancer Sciences (IACS) will work closely with drug discovery scientists from X-Chem in screening X-Chem’s proprietary DNA-encoded small molecule libraries for novel drug leads against relevant cancer targets. MD Anderson will develop lead compounds that exhibit therapeutic promise under license from X-Chem. Under the terms of the agreement X-Chem receives research funding from MD Anderson and retains a shared ownership interest in potential products emerging from the partnership. Financial details were not disclosed.

“The mission of IACS is to rapidly develop novel therapeutics for targeted patient populations, that are safe and effective in improving patient health,” stated Philip Jones, Ph.D., Head of Discovery at MD Anderson’s IACS. “Many disease targets in cancer are highly complex and belong to protein families previously considered undruggable, and therefore challenging to inhibit with small molecules. The DNA-encoded screening platform appealed to our team because of the size and chemical diversity of the library, and the ability to interrogate multiple binding sites on protein targets. It is a cutting-edge discovery technology that perfectly complements our capabilities at MD Anderson.”

“We are very excited to count MD Anderson among our growing list of high-profile partners,” said Rick Wagner, Ph.D., President and Chief Executive Officer of X-Chem. “MD Anderson is a world-leader in the treatment of cancer patients and cancer research. This partnership brings together the latest in oncology R&D insight and our state-of-the-art discovery platform, all under a partnership model that ensures long-term alignment of interests and an equitable distribution of the potential proceeds resulting from successful drug programs.”

About the DNA-Encoded X-Chem (DEX™) Library and Platform

Due to the size and diversity of the DEX library, X-Chem can discover multiple series of novel, potent and selective lead compounds at an unprecedented rate of success against a wide range of targets, including some that previously failed using conventional screening methods. A number of proprietary innovations in library design, screening methodology and bioinformatics underlie the exceptional performance of the DEX platform. In particular, X-Chem’s approach to library construction allows for additional chemical reactions to become useable in DNA-encoded library synthesis. Together, these developments result in a much greater repertoire of diversity for small molecules, which cover a range of categories including fragment molecules, small molecular weight heterocyclic compounds, and macrocyclic structures. This diverse library, combined with a heightened ability to detect active
molecules, has yielded a robust process that has been highly successful against targets categorized as difficult or intractable.

About DNA-Encoding
The X-Chem drug discovery engine is based on a library generated by iterative combinatorial synthesis of small molecules tethered to DNA tags that record the synthetic history of the small molecule. Every small molecule in the library has a unique DNA barcode attached to it. The library is screened as a mixture using affinity-based binding to a target of interest. Certain rare molecules in the library that bind to the target can be “fished out,” while the rest of the molecules wash away. DNA sequencing methods are then used to detect molecules that are enriched when bound to the target. The diverse nature of the library produces multiple families or clusters of related molecules that bind to the target, forming a basis for emergent structure-activity relationships. Structure-activity relationships are typically used by medicinal chemists to guide iterative chemical maturation of a molecule into a drug. Based on the synthetic history encoded in the DNA sequence information, molecules are then made without the DNA tag attached, and tested for activity in conventional assays.

About X-Chem
X-Chem, Inc. is a privately-owned biotechnology company based in Waltham, Mass.. The company’s mission is to apply its powerful product engine to the discovery of small molecule compounds against high-value therapeutic targets. X-Chem has established partnerships with Roche, AstraZeneca and several other leading pharmaceutical companies, biotechnology organizations, and academic centers. For further information on X-Chem, please visit: http://www.x-chemrx.com/.

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