



PRESS RELEASE

X-Chem Enters Expanded Global Drug Discovery Collaboration with AstraZeneca

-- Establishes X-Chem as a Key Partner in AstraZeneca's Drug Discovery Strategy -

WALTHAM, Mass. – October 3, 2013 - X-Chem, Inc., a privately held biotechnology company focused on applying its innovative drug discovery capabilities to the generation of novel small molecule therapeutics, today announced it has entered into an expanded global drug discovery collaboration with AstraZeneca across all of the pharmaceutical company's therapeutic areas and multiple target classes. The companies had entered into a previous collaboration in May of 2012. AstraZeneca recently elected to license three drug discovery programs resulting from that effort, directed at, respectively, an oncology protein-protein interaction (PPI) target, a respiratory/inflammation PPI target, and an antibacterial target. AstraZeneca has opted to extend the initial research collaboration from two to five years. X-Chem will conduct drug discovery on at least 10 therapeutic targets per year going forward.

Under the terms of the new agreement, X-Chem will receive committed research and development funding for each project. Each X-Chem program licensed by AstraZeneca is eligible for pre-clinical, clinical and sales milestones in the aggregate amount of up to \$26M. In addition, X-Chem will receive significant royalties for each successfully commercialized drug that results from a licensed collaboration program.

"X-Chem is revolutionizing the discovery of small molecule drugs. Our discovery engine is being successfully applied to a full spectrum of targets in multiple therapeutic areas," said Rick Wagner, Ph.D., Chief Executive Officer of X-Chem. "Our existing collaboration with AstraZeneca has demonstrated the superior performance of the X-Chem platform with its high rate of discovery of novel leads to challenging targets, but also its unparalleled speed and efficiency. This expanded agreement allows us to work together on new, exciting therapeutic programs with the potential to treat a broad array of diseases and conditions with significant unmet medical needs."

"X-Chem and AstraZeneca have quickly built a strong relationship delivering outcomes that have exceeded our expectations. We are now committing to a longer-term and broader collaboration that we believe will continue adding value to our core therapeutic portfolio of small molecule drug development programs," said Steve Rees, VP, Discovery Sciences, AstraZeneca. "The novel chemical series discovered by X-Chem have so far enabled three of our therapeutic programs and are continuing to progress



within AstraZeneca. We view the X-Chem platform as an important and strategic part of our small molecule discovery strategy.”

About X-Chem

X-Chem, Inc. is a biotechnology company based in Waltham, Massachusetts. X-Chem uses its proprietary high-diversity library and ultra-efficient screening platform to improve the rate and quality of small molecule lead discovery and expand the universe of ‘druggable’ targets. X-Chem has established partnerships with several leading pharmaceutical companies, biotechnology organizations, and academic centers. In 2010, X-Chem and Pharmaceutical Product Development, LLC (PPD) formed a strategic partnership, including an investment from PPD. For further information on X-Chem, please visit: <http://www.x-chemrx.com/>.

About AstraZeneca

AstraZeneca is a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialisation of prescription medicines, primarily for the treatment of cardiovascular, metabolic, respiratory, inflammation, autoimmune, oncology, infection and neuroscience diseases. AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide. For more information please visit: www.astrazeneca.com

About PPD

PPD is a leading global [contract research organization](#) providing [drug discovery](#), development, lifecycle management and [laboratory](#) services. Our clients and partners include [pharmaceutical](#), [biotechnology](#), [medical device](#), academic and [government](#) organizations. With offices in 46 countries and more than 12,500 professionals worldwide, PPD applies innovative technologies, therapeutic expertise and a commitment to quality to help clients and partners accelerate the delivery of safe and effective therapeutics, and maximize the returns on their R&D investments. For more information, visit www.ppd.com.

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