

### PRESS RELEASE

# PPD Exercises Option to Acquire Remaining Interest in X-Chem, Inc.

-- With numerous strategic partnerships underway, X-Chem emerges as a leading biotechnology company focused on drug discovery --

WILMINGTON, N.C. and WALTHAM, Mass.— September 25, 2014 — Pharmaceutical Product Development, LLC (PPD) and X-Chem, Inc. announced today that PPD has exercised its option to acquire the remaining minority ownership interest of X-Chem, Inc. X-Chem will continue to operate as a biotechnology company with its entire existing staff, including its management team led by Chief Executive Officer and Founder Richard W. Wagner, Ph.D., along with executive management team members Diala Ezzeddine, Ph.D., Chief Business Officer, and Matthew Clark, Ph.D., Sr. Vice President of Research, and Lee Babiss as Chairman of the Board.

PPD acquired a controlling interest in X-Chem in October, 2010, along with the right to purchase the remaining interest on or before October 31, 2014. PPD's decision to acquire the remaining minority interest in X-Chem is based on, among other factors, the successful business model that X-Chem has built and the growing interest by pharmaceutical firms to gain access to X-Chem's proprietary small molecule discovery technology.

"Four years ago, PPD made a strategic decision to invest in X-Chem, based on their highly innovative drug discovery engine," David Simmons, chairman and chief executive officer of PPD said. "X-Chem has demonstrated the value of its technology through establishment of an increasing number of relationships with major pharmaceutical and biotechnology companies, along with academic centers. Through these relationships, X-Chem has emerged as one of the top small molecule drug discovery companies in the biotechnology industry. We look forward to continuing to work with Dr. Wagner and the entire X-Chem team to advance the technology and drive value for our biopharmaceutical partners."

"This event is a major milestone for our scientists, investors, and company" said Richard Wagner. "We have enjoyed a highly productive and collaborative relationship with PPD to date and share a belief in the potential of X-Chem to transform drug discovery through broad application of our technology to a wide spectrum of targets and therapeutic areas. We look forward to additional success for our two companies and the patient communities we ultimately aspire to help."



Since 2010, X-Chem has established partnerships with Roche, AstraZeneca, Bayer, Pfizer, and two additional major pharmaceutical companies as well as several biotechnology companies and top tier academic institutions. In collaboration with its partners, the company has applied its powerful product engine fueled by a proprietary DNA-encoded small molecule library in excess of 100 billion distinct compounds to the generation of novel therapeutics against dozens of validated targets.

## **About the X-Chem Drug Discovery Platform**

Due to the size and diversity of the 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 platform. In particular, X-Chem's superior 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 collection of unique libraries 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 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, Bayer, Pfizer, and several other leading pharmaceutical companies, biotechnology organizations, and academic centers.

For further information on X-Chem, please visit: http://www.x-chemrx.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 13,000 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 <a href="https://www.ppdi.com">www.ppdi.com</a>.

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Forward-looking Disclaimer

Except for historical information, all of the statements, expectations and assumptions, including statements, expectations and assumptions about X-Chem's small molecule drug discovery technology and the value of PPD's investment in X-Chem, contained in this news release are forward-looking statements that involve a number of risks and uncertainties. Although PPD and X-Chem attempt to be accurate in making these forward-looking statements, it is possible that future circumstances might differ from the assumptions on which such statements are based and could cause actual results to differ materially from the forward-looking statements. Other important factors that could cause future results to differ materially include the following: rapid technological advances that make our services and technology less competitive; the ability to attract, integrate and retain key personnel; risks associated with acquisitions and investments; risks associated with and dependence on strategic relationships; competition in the outsourcing industry; X-Chem's ability to win new business; the rate of conversion of backlog into revenue and earnings; overall global economic conditions; economic conditions, research and development spending, and outsourcing trends in the pharmaceutical, biotechnology and government-sponsored research sectors; consolidation in the pharmaceutical and biotechnology industries; loss, delay or modification of large contracts; actual operating performance;



compliance with drug development regulations; changes in the regulation of the drug development process; and the ability to control SG&A spending. PPD and X-Chem assume no obligation and expressly disclaim any duty to update these forward-looking statements in the future, except as required by applicable law. These forward-looking statements should not be relied upon as representing PPD's or X-Chem's estimates or views as of any date subsequent to the date hereof.

