



## **Acetylon Pharmaceuticals Raises \$7.25 Million Series A to Develop Next-Generation Selective HDAC Inhibitors for Cancer and Rheumatoid Arthritis**

*-- New CEO and Key Board of Directors Appointments  
Join Co-Founders and Preeminent HDAC Scientists from  
Dana-Farber and Harvard University to Lead Development of  
Highly Selective HDAC Therapeutics --*

**Cambridge, Massachusetts, August 7, 2009** -- Acetylon Pharmaceuticals, Inc. announced today that it has completed a \$7.25 million Series A Preferred investment round to fund final lead optimization, preclinical studies and a first investigational new drug application for its next-generation HDAC6-selective histone deacetylase (HDAC) inhibitor drug candidates. The first disease indications targeted for Acetylon's next-generation HDAC inhibitors are multiple myeloma and rheumatoid arthritis. Acetylon is applying its scientific expertise to the development of small molecule HDAC inhibitors that build upon the proven therapeutic potential of HDAC inhibition but are differentiated by their enhanced target selectivity. The Company believes that its newly selective HDAC inhibitors may reduce or eliminate the debilitating and sometimes life-threatening side effects associated with the current generation of HDAC inhibitors.

"Acetylon Pharmaceuticals comes out of the blocks as the industry front-runner in the discovery of next-generation selective HDAC inhibitors with a strategic focus on the development of potent pharmaceuticals for multiple myeloma and rheumatoid arthritis," stated Marc A. Cohen, co-founder and Chairman of the Board of Directors. "Acetylon's leadership position and scientific expertise have enabled the Company to complete a substantial round of funding in a difficult financial climate. We are fortunate to benefit from Dr. Ken Anderson's experience as an international authority in multiple myeloma and as a principal leader in bringing the current generation of leading myeloma drugs from the bench through FDA approval and to the bedside. Our two other scientific co-founders, Dr. Jay Bradner and Dr. Ralph Mazitschek, are world-class scientists with exceptional expertise in HDAC biology, drug discovery and medicinal chemistry and have authored numerous peer-reviewed articles and patents in this area."

HDAC inhibitors are widely recognized as a therapeutically important class of drugs, but the lack of specificity of the current generation of HDAC inhibitors has resulted in significant and often debilitating side-effects. Acetylon's intellectual property, which is being licensed from Harvard University and the Dana-Farber Cancer Institute, includes structural families of HDAC6 isoform-selective inhibitors, as well as a powerful and unique discovery and development platform for creating new selective HDAC inhibitors. Research has already shown that Acetylon's synthetic small molecules are highly selective, broadly applicable across models of many human diseases, and have the potential to reduce current HDAC-associated side effects. Acetylon is utilizing this extensive base of scientific research to accelerate preclinical

development and intends to select a lead drug candidate this year for advancement into human clinical trials.

Acetylon's lead HDAC6 inhibitor program is focused on reducing or eliminating side effects common to HDAC inhibition through highly selective targeting of the HDAC6 enzyme, which is one of 18 known histone deacetylase enzymes present in human cells. Inhibition of HDAC6 versus other isoforms uniquely preserves normal gene expression in cells while severely disrupting the cells' ability to dispose of damaged, misfolded proteins. Since metabolically active cancer and autoimmune cells produce large amounts of misfolded proteins, inhibition of HDAC6 results in rapid accumulation of protein "trash," triggering self-destruction of diseased cells via programmed cell death leading to regression of disease.

Acetylon also today announced the appointment of Walter C. Ogier as President, Chief Executive Officer and member of the Board of Directors. Mr. Ogier is the former CEO of Boston-area medical products companies Eligix Inc. and Genetix Pharmaceuticals Inc. and a business founder of Acetylon. The Company further appointed Bruce L. Downey and Elena Prokupets to the Acetylon Board of Directors. Mr. Downey is the former Chairman and CEO of Barr Pharmaceuticals Inc., the largest North American generic drug company and leader in women's health which was recently acquired by Teva Pharmaceuticals. Dr. Prokupets is the former president, chairman and CEO of Lenel Systems International, a leading computer technology company acquired by United Technologies Corporation (NYSE:UTX) in 2005.

"We are also gratified to formalize the addition of pharmaceutical and biotechnology industry veterans Bruce Downey and Walter Ogier and tech industry veteran Elena Prokupets. This talented team will help Acetylon realize the medical vision of our scientific founders," concluded Cohen, who is also Chairman and CEO of OPNET Technologies (NASDAQ: OPNT).

"Many pharmaceutical companies are founded around a single molecule or therapeutic concept, leaving a great deal of discovery work yet to be accomplished," commented Mr. Downey. "Together with its founders, Acetylon has applied its unique discovery expertise to create and evaluate more than 2,000 novel selective HDAC inhibitor compounds, arriving at a group of promising drug candidates for multiple myeloma, lymphomas and rheumatoid arthritis."

"We believe that Acetylon and its founders have surmounted the most critical obstacle to realizing the promise of HDAC inhibition," commented Mr. Ogier. "Acetylon has already developed a proof-of-concept portfolio of HDAC6 inhibitor compounds that are both potent and highly selective and that we believe will offer an improved side effect profile compared to existing HDAC inhibitors. We are also excited as we look forward to applying our discovery technology platform to generate additional isoform-selective HDAC inhibitors for the treatment of further human diseases including solid tumor cancers, neurodegenerative disorders and major genetic diseases."

#### **About HDACs and HDAC Inhibition**

Histone deacetylases are significant drug targets because they comprise a family of 18 different cellular enzymes which affect the physical configuration of large protein networks present in most living cells. Pharmaceutical companies have largely focused on the non-specific epigenetic properties of DNA-histone protein networks in regulating gene expression, and thereby controlling the production of new proteins within the cell. These approaches have largely

disregarded the importance of protein networks outside the cell nucleus which facilitate the transport and destruction of damaged proteins. Current non-selective HDAC inhibitors with broad activity against HDACs 1, 2, 3 and other HDAC enzyme isoforms thus result in substantial alteration of gene expression, particularly in highly metabolic cells such as cancer and autoimmune cells. At the same time, by additionally non-selectively inhibiting the HDAC6 enzyme isoform, they also shut down the aggresome pathway which is responsible for the destruction and disposal of damaged proteins outside the nucleus of the cell. This results in the buildup of “trash” within the cell, which has been shown to independently lead to self-destruction of diseased cells. Non-selective HDAC inhibitor drugs have been proven to be highly effective, i.e. very toxic, to diseased cell populations in multiple kinds of cancer, and they have also demonstrated promising results in clinical trials with cancers as well as autoimmune diseases such as rheumatoid arthritis and neurodegenerative diseases such as Parkinson’s. There is also early promise for genetic diseases such as sickle cell anemia and thalassemia major and even infectious diseases such as malaria.

However, a critical issue in the development of HDAC inhibitors as widely prescribed pharmaceuticals is the typical non-specific (off-target) inhibition of those multiple different HDAC enzyme isoforms which regulate nuclear gene expression. Non-specific HDAC inhibition can lead to the toxic dysfunction of critical biological processes within normal cells of the body. Common side effects of current HDAC inhibitors thus include gastrointestinal dysfunction including diarrhea and vomiting, dangerously low numbers of circulating blood cell populations including platelets which are responsible for preventing cerebral hemorrhage and other bleeding risks, profound fatigue which severely impacts the quality of life of patients and their ability to continue with drug treatment, and abnormal heartbeat pattern known as “QT prolongation” which in some instances has caused sudden heart stoppage and death. Acetylon is committed to the development of HDAC6-selective inhibitor drugs with the potential to yield the powerful therapeutic benefits of HDAC inhibition without the serious side effects caused by current non-selective approaches.

### **About Acetylon**

Acetylon Pharmaceuticals, Inc. is applying its unique capabilities to discover and develop next-generation, highly selective small molecule drugs to realize the therapeutic potential of HDAC inhibition to treat cancer, autoimmune and other diseases, while reducing the side effects common to this class of drugs. The Company is based on technology initially developed at the Dana-Farber Cancer Institute and at Harvard University. Acetylon’s technologies were initially discovered and developed by scientific founders Kenneth C. Anderson, MD, Kraft Family Professor of Medicine at Harvard Medical School and the Dana-Farber Cancer Institute, James M. Bradner, MD, Assistant Professor of Medicine at Harvard Medical School and the Dana-Farber Cancer Institute, and Ralph Mazitschek, Ph.D., Instructor at Harvard Medical School and the Center for Systems Biology at Massachusetts General Hospital, and by Stuart Schreiber, Ph.D., Morris Loeb Professor of Chemistry and Chemical Biology at Harvard University and Howard Hughes Medical Institute Investigator.

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