

Sigma(R) Life Science Introduces World's First Suite of Knockout Rats for ADME/Tox Applications

ST. LOUIS, March 8, 2010 /PRNewswire via COMTEX News Network/ -- Sigma(R) Life Science, an innovative brand of Sigma-Aldrich(R) (Nasdaq: SIAL), today extended its portfolio of knockout rat models with the announcement of a new suite of models designed to facilitate more predictive absorption, distribution, metabolism, excretion and toxicity (ADME/Tox) studies. This extension of the Company's product offering, the first ever models created especially for ADME/Tox applications, is expected to help researchers establish the efficacy of drugs more rapidly and with greater accuracy, due to the rat's ability to better model human physiology when compared to mouse models currently used.

The four new models were developed by Sigma Advanced Genetic Engineering (SAGE(TM)) Labs (<http://www.sageresearchmodels.com>), a Sigma Life Science initiative, and have single gene deletions to well-established drug transporters: Mdr1a (P-glycoprotein), Mrp1 (Multiple drug resistance-associated protein 1), Mrp2 (Multiple drug resistance-associated protein 2), Pxr (Pregnane X receptor), and Bcrp (Breast cancer resistance protein). The validated Mdr1a knockout model is currently available for purchase, while the other models are expected to be available for purchase later this year.

"Until now, the availability of relevant, genetically modified rats was limited. Knockout mice are readily available, but very challenging to use in ADME/Tox applications due to their size and physiology. We've changed that," commented Dr. Edward Weinstein, director of SAGE Labs. "Our knockout rat models offer a platform that can potentially save millions of dollars in development costs for potential drug candidates by providing a more human-like model, and at the same time significantly decrease time to market for these therapeutics. A rat that is deficient in P-glycoprotein (PGP) expression, for example, serves as an improved model over the existing mouse model due to its metabolism and physiology, making it more predictive of how a drug will behave in humans. This is of huge benefit to drug discovery, enabling researchers to go back and address issues much sooner than they can today."

The latest knockout rat models were developed using Sigma-Aldrich's proprietary CompoZr(TM) Zinc Finger Nuclease (ZFN) (<http://www.compozrzn.com>) gene editing technology, which enables scientists to deactivate or "knockout" specific genes that are associated with human disease.

SAGE Labs is the premier resource for genetically modified rodent disease models and markets its exclusive SAGESpeed(TM) Custom Model Development program for the creation of knockout mouse or rat models in as little as five months. The group is also developing their catalog of knockout rat models across a number of research fields, including Neurobiology, Toxicology, Cardiology and Immunology.

For more information on SAGE Labs or to register interest in a specific knockout rat model, visit <http://www.sageresearchmodels.com>.

Cautionary statement: The foregoing release contains forward-looking statements that can be identified by terminology such as "expected to help," "more rapidly," "greater accuracy," "can potentially save millions of dollars," "significantly decrease time to market," "improved model," "huge benefit," "premier source," or similar expressions, or by express or implied discussions regarding knockout rats, or regarding potential future revenues from products derived therefrom. You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of management regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no guarantee that our knockout rat products will continue to meet the demands of the marketplace. Nor can there be any guarantee that any of these products will achieve any particular levels of revenue in the future. In particular, management's expectations regarding these products could be affected by, among other things, unexpected regulatory actions or delays or government regulation generally; the Company's ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry and general public pricing pressures; the impact that the foregoing factors could have on the values attributed to the Company's assets and liabilities as recorded in its consolidated balance sheet, and other risks and factors referred to in Sigma-Aldrich's current Form 10-K on file with the US Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those anticipated, believed, estimated or expected. Sigma-Aldrich is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

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and cell-based assays, transgenics, protein assays, stem cell research, epigenetics and custom services/oligonucleotides. Sigma Life Science also provides an extensive range critical bioessentials like biochemicals, antibiotics, buffers, carbohydrates, enzymes, forensic tools, hematology and histology, nucleotides, amino acids and their derivatives, and cell culture media.

About Sigma-Aldrich: Sigma-Aldrich is a leading Life Science and High Technology company whose innovative biology and organic chemistry products are used by scientists around the world, involved in genomic and proteomics, biotechnology research and pharmaceutical development, and in pharmaceutical, diagnostics and other high technology manufacturing. Sigma-Aldrich operates in 38 countries and its 7,800 employees all contribute to providing excellence in service worldwide. For more information about Sigma-Aldrich visit <http://www.sigma-aldrich.com>.

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