March 23, 2010

Tekmira Announces Advances in Identifying and Preventing siRNA-Mediated Immune Stimulation

Vancouver, BC — Tekmira Pharmaceuticals Corporation (TSX: TKM), a leader in RNA interference (RNAi) therapeutics, today presented data to industry and regulatory leaders highlighting recent advances made by the company to identify and prevent the potential immune stimulatory properties of siRNA drugs.

Dr. Ian MacLachlan, Tekmira's Chief Scientific Officer, presented data from the company's recently completed ApoB SNALP Phase 1 human clinical trial at the DIA (Drug Information Association, Inc.) 3rd Oligonucleotide-based Therapeutics Conference. The conference is titled "Where Regulators and Industry Partner to Advance Oligonucleotide Science Together". It is attended by representatives of the U.S. FDA and Health Canada as well as the pharmaceutical industry.

In his presentation, Dr. MacLachlan reported on Tekmira's recently completed ApoB SNALP Phase 1 human clinical trial and the immune stimulation observed in one patient at the highest dose level. Tekmira believes it has been able to replicate these results using a laboratory assay based on primary human immune cells. Encouraged by the results of this process, Tekmira intends to use this assay as the basis by which new RNAi drug candidates are screened. Tekmira believes that the use of this assay will assist in the development of RNAi products that minimize the effects of immune stimulation while preserving the RNAi drug activity.

Dr. Mark J. Murray, Tekmira's President and CEO, said, "We have made tremendous progress over the past few months to implement an assay for siRNAs that we believe can be used to design siRNA structures which will avoid stimulation of the immune system. This work is critical for the entire field of RNAi therapeutics and we were pleased to have the opportunity today to present our recent findings to an audience of our pharmaceutical peers and to drug regulators."

Earlier this year at the AsiaTIDES scientific conference, Tekmira reported that it has completed the evaluation of unique ApoB siRNA structures and has selected its second generation ApoB siRNA. The selection is based on experiments confirming the siRNA's ability to inhibit the expression of ApoB without stimulating the human immune system in Tekmira's new immune cell assay. Tekmira's second generation ApoB SNALP is expected to enter a Phase 1/2 human clinical trial in the second half of 2010.

About RNAi and SNALP
RNAi therapeutics have the potential to treat a broad number of human diseases by "silencing" disease causing genes. The discoverers of RNAi, a gene silencing mechanism used by all cells, were awarded the 2006 Nobel Prize for Physiology or Medicine. RNAi therapeutics, such as "siRNAs," require delivery technology to be effective systemically. Lipid nanoparticles (LNPs) are one of the most widely used siRNA delivery approaches for systemic administration. Tekmira's SNALP (stable nucleic acid-lipid particles) technology is the leading class of LNPs being used in clinical development. SNALP technology encapsulates siRNAs with high efficiency in uniform lipid nanoparticles which are effective in delivering RNAi therapeutics to disease sites in numerous preclinical models. SNALP formulations are manufactured by a proprietary method which is robust, scalable and highly reproducible. SNALP-based products have been reviewed by multiple FDA divisions for use in clinical trials. SNALP formulations comprise several lipid components that can be adjusted to suit the specific application.

About Tekmira
Tekmira Pharmaceuticals Corporation is a biopharmaceutical company focused on advancing novel RNAi therapeutics and providing its leading lipid nanoparticle delivery technology to pharmaceutical partners. Tekmira has been working in the field of nucleic acid delivery for over a decade and has broad intellectual property covering SNALP and LNPs. Further information about Tekmira can be found at www.tekmirapharm.com. Tekmira is based in Vancouver, B.C.

Forward-Looking Statements and Information
There are forward-looking statements and information contained herein that are not based on historical fact, including, without limitation, statements containing the words "believes," "may," "plans," "will," "estimate," "continue," "anticipates," "intends," "expects," and similar expressions, and the negative of such expressions. These statements are only predictions.

Forward-looking statements and information should be considered carefully. Undue reliance should not be placed on forward-looking statements and information as there can be no assurance that the plans, intentions or expectations upon which they

are based will occur. By their nature, forward-looking statements and information involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, which contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements and information will not occur and may cause actual results or events to differ materially from those anticipated in such forward-looking statements and information.

With respect to the discussion in this news release of the development of an assay to test for immune stimulation effects, as this assay has been developed in the laboratory there is no certainty that it will accurately predict immune stimulation in human clinical trials. Tekmira has made its statements about the usefulness of the immune stimulation assay based on its research and development experience in the RNAi field, but laboratory tests are not always predictive of human clinical results.

With respect to statements on clinical programs, such statements are based upon Tekmira's assessment of its research and development capabilities and resources, the statements made by its development partners and its understanding of the regulatory approval process. However, FDA consent is required to commence a clinical trial and there is no guarantee that the FDA will approve the use of a new product candidate in a clinical trial.

A more complete discussion of the risks and uncertainties facing Tekmira appears in Tekmira's Annual Information Form dated March 31, 2009 available at www.sedar.com. Tekmira disclaims any obligation to update any such factors or to publicly announce the result of any revisions to any of the forward-looking statements or information contained herein to reflect future results, events or developments, except as required by law.

Contact Information

Investors
Adam Peeler
The Equicom Group
Phone: 416-815-0700 x 225
Email: apeeler@equicomgroup.com

Ian Mortimer
Executive Vice President and Chief Financial Officer
Phone: 604-419-3200

Media
David Ryan
Longview Communications Inc.
Phone: 604-694-6031
Email: dryan@longviewcomms.ca