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# Tekmira Presents Recent Advances in mRNA Delivery at Scientific Symposium

VANCOUVER, British Columbia, Feb. 25, 2014 (GLOBE NEWSWIRE) -- Tekmira Pharmaceuticals Corporation (Nasdaq:TKMR) (TSX:TKM), a leading developer of RNA therapeutics, announced that recent advances in the enablement of messenger RNA (mRNA) using Tekmira's lipid nanoparticle (LNP) technology were presented by Tekmira's Chief Technical Officer, Dr. Ian MacLachlan, at the AsiaTIDES Conference taking place in Tokyo, Japan from February 25-27, 2014.

"We are pleased to present recent advances with Tekmira's LNP formulations tailored specifically for mRNA delivery. Our LNP technology is the most widely adopted delivery solution for therapeutics based on RNA interference triggers. However, in addition to RNAi, other important nucleic acid payloads, including messenger RNA, can be efficiently and effectively delivered using Tekmira's LNP. By leveraging improvements in LNP technology garnered through Tekmira's siRNA-based product development programs, we have made substantial improvements in mRNA delivery, positioning us to enable the development of mRNA therapeutics by our partners as we have done with RNAi-based therapies," said Dr. Mark J. Murray, Tekmira's President and CEO.

This data package builds upon the presentation given at the 1st International mRNA Health Conference in Tubingen, Germany in October 2013. In today's presentation titled "Recent Advances in the Lipid Nanoparticle-Mediated Delivery of Messenger RNA," data were presented showing highly potent delivery *in vivo* to liver, tumors and other tissues.

Some key summary points from the presentation include:

- Tekmira's expertise in LNP delivery is broad and wide-reaching; Tekmira scientists have designed LNP for hepatic delivery, oncology applications, inhalation and delivery to immune cells.
- Tekmira's proprietary manufacturing methodology is the method of choice for mRNA delivery and is believed to be the only method resulting in highly reproducible mRNA encapsulation under conditions suitable for product development purposes. Typically, regulatory authorities require greater than 90% encapsulation for GMP and product development purposes, which is a target that is readily achieved using Tekmira's inherently scalable process.
- Tekmira has successfully integrated third generation LNP technology in LNP containing mRNA. The result is a more robust manufacturing process, increased encapsulation efficiency, and a substantial increase in mRNA potency relative to second generation systems, including those that contain MC3.
- Tekmira has demonstrated highly efficient delivery in a range of tumor models including distal tumors and orthotopic liver tumors with gene expression long-lived when compared to other tissues.
- When applying Tekmira's third generation LNP technology to the delivery of mRNA in the liver, data demonstrated significant improvements over previous generations, readily achieving mRNA delivery and expression in every single hepatocyte.

A copy of the presentation slides will be available on the Tekmira website on the Events page at: <a href="http://investor.tekmirapharm.com/events.cfm">http://investor.tekmirapharm.com/events.cfm</a>.

### About Messenger RNA (mRNA)

Messenger RNA (mRNA) is a class of RNA molecules that contains the genetic information specifying the amino acid sequence of proteins. mRNA is translated in the cell into polymeric chains of amino acids known as polypeptides or proteins. The medical use of mRNA to direct the intracellular expression of therapeutic proteins is rapidly evolving into a key area of research and development in biotechnology. Scientists and pharmaceutical companies around the world are developing drugs based on this biomolecule. The first clinical studies are currently ongoing, and innovative therapeutic treatment options for diseases such as cancer, cardiovascular or metabolic diseases or infectious diseases such as influenza are under development.

## **About RNAi and Tekmira's LNP**

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. Tekmira believes its LNP technology represents the most widely adopted delivery technology for the systemic delivery of RNAi therapeutics. Tekmira's LNP platform is being utilized in multiple clinical trials by both Tekmira and its partners. Tekmira's LNP technology (formerly referred to as stable nucleic acid-lipid particles or SNALP) encapsulates siRNAs with high efficiency in uniform lipid nanoparticles that are effective in delivering RNAi therapeutics to disease sites in numerous preclinical models. Tekmira's LNP formulations are manufactured by a proprietary method which is robust, scalable and highly reproducible, and LNP-based products have been reviewed by multiple FDA divisions for use in clinical trials. LNP 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 LNPs. Further information about Tekmira can be found at <a href="https://www.tekmirapharm.com">www.tekmirapharm.com</a>. Tekmira is based in Vancouver, B.C.

# Forward-Looking Statements and Information

This news release contains "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws (collectively, "forward-looking statements"). Forward-looking statements in this news release include Tekmira's strategy, future operations, clinical trials, prospects and the plans of management; RNAi (ribonucleic acid interference) product development programs; data demonstrating Tekmira's ongoing lipid nanoparticle (LNP) technology innovations, including the enablement of messenger RNA (mRNA); ; substantial improvements in mRNA delivery; the advancement of products that utilize Tekmira's lipid nanoparticle technology; innovation and protection of LNP technology; and the use of lipid nanoparticle technology by Tekmira's licensees.

With respect to the forward-looking statements contained in this news release, Tekmira has made numerous assumptions regarding, among other things: LNP's status as a leading RNAi delivery technology; the effectiveness of Tekmira's products as therapeutic treatments for diseases, including rare diseases; mRNA is efficiently delivered using Tekmira's LNP; results in preclinical models are indicative of the potential effect in humans; Tekmira's research and development capabilities and resources; the use of LNP technology by Tekmira's development partners and licensees; and Tekmira's ability to protect its intellectual property rights and not to infringe on the intellectual property rights of others. While Tekmira considers these assumptions to be reasonable, these assumptions are inherently subject to significant business, economic, competitive, market and social uncertainties and contingencies.

Additionally, there are known and unknown risk factors which could cause Tekmira's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements contained herein. Known risk factors include, among others: Tekmira's research and development capabilities and resources may not meet current or expected demand; Tekmira's products may not prove to be effective as therapeutic treatments for diseases, including rare diseases; Tekmira's LNP may not be as efficient of a delivery system for mRNA as currently believed; Tekmira may not obtain and protect intellectual property rights, and operate without infringing on the intellectual property rights of others; Tekmira may face competition from other pharmaceutical or biotechnology companies and the possibility that other organizations have made advancements in RNAi delivery technology that Tekmira is not aware of; future operating results are uncertain and likely to fluctuate; economic and capital market conditions; Tekmira may become subject to product liability or other legal claims for which Tekmira has made no accrual in its financial statements; and the possibility that Tekmira may not have sufficiently budgeted for expenditures necessary to carry out planned activities.

A more complete discussion of the risks and uncertainties facing Tekmira appears in Tekmira's annual report on Form 20-F for the year ended December 31, 2012 (Annual Report), which is available at <a href="www.sedar.com">www.sedar.com</a> or at <a href="www.sec.gov/edgar.shtml">www.sec.gov/edgar.shtml</a>. All forward-looking statements herein are qualified in their entirety by this cautionary statement, and Tekmira disclaims any obligation to revise or update any such forward-looking statements or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments, except as required by law.

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