



March 25, 2015

## **Tekmira Presents Preclinical Results Demonstrating Super-Additive Effects on Plasma Triglyceride Lowering by Silencing of ApoC3 and ANGPTL3 Genes**

### **Results of TKM-HTG for the Treatment of Hypertriglyceridemia Presented at Keystone Symposia Conference**

VANCOUVER, British Columbia, March 25, 2015 (GLOBE NEWSWIRE) -- Tekmira Pharmaceuticals Corporation (Nasdaq:TKMR) an industry-leading therapeutic solutions company focused on developing a cure for chronic hepatitis B virus infection (HBV), announced today that new preclinical data on TKM-HTG, an RNAi therapeutic, were presented at the Keystone Symposia Conference: Liver Metabolism and Nonalcoholic Fatty Liver Diseases, in Whistler, Canada, March 22-27, 2015. Dr. Narayanan Hariharan, Senior Director of Research for Tekmira, delivered a podium presentation at the conference titled, *"Novel RNAi-Lipid Nanoparticle Therapeutics for Hypertriglyceridemia,"* and a poster presentation titled, *"TKM-ApoC3, an RNAi-Lipid Nanoparticle Therapeutic, Ameliorates Hypertriglyceridemia and Improves Metabolic Profile in Human-ApoC3 Transgenic Mice."*

TKM-HTG is a product candidate in Tekmira's non-HBV product pipeline for the treatment of hypertriglyceridemia (HTG). TKM-HTG is being developed as a dual component RNAi therapeutic that simultaneously targets two important genes expressed in the liver, which are known to play a significant and complementary role in triglyceride metabolism. The most important finding obtained in the pre-clinical studies are the super-additive effects on plasma triglycerides by silencing the Apolipoprotein C3 (ApoC3) and Angiopoietin like protein 3 (ANGPTL3) genes, which are expressed in the liver, in a well validated model of HTG. High triglyceride levels are medically linked to an increased risk of cardiovascular disease, fatty liver disease, insulin resistance and pancreatitis.

"Today, Dr. Narayanan Hariharan presented exciting pre-clinical data demonstrating a unique mechanism of action of our TKM-HTG agent which reflects the value, we believe, resides in our non-HBV assets. Our aim is to achieve rapid and sustained reductions of triglycerides and address the limitations of existing HTG treatments with TKM-HTG," said Dr. Mark J. Murray, Tekmira's President and CEO. "We are encouraged by the results presented and we are advancing TKM-HTG into investigational new drug application-enabling studies."

Key summary points from Dr. Hariharan's presentation include:

- Preclinical studies employed two well validated models of HTG including human ApoC3 transgenic (Tg) mouse model and high-fat containing diet fed mouse model. In the human ApoC3-Tg mouse model, silencing of ApoC3 gene was accomplished, which resulted in rapid, potent and sustained plasma triglyceride (TG) lowering, with the lowest effective dose at 0.03 mg/kg. Duration of gene silencing and TG lowering effects from a single administration of the ApoC3 RNAi trigger lasted for more than 2 weeks.
- In addition, beneficial cholesterol profile changes and significant glucose lowering effects were also observed.
- In the high-fat containing diet fed mouse model, silencing of both the ApoC3 and ANGPTL3, genes, resulted in super-additive plasma triglycerides lowering effects. Doses of 0.125 mg/kg + 0.125 mg/kg in combination were superior to either 0.25 mg/kg or 0.5 mg/kg for the individual RNAi-triggers. This demonstrates the advantage of using a dual-component RNAi-therapeutic for the potential treatment of HTG.

#### **Presentation Information**

A copy of Tekmira's slides from the Keystone Symposia Conference: Liver Metabolism and Nonalcoholic Fatty Liver Diseases will be available on the Tekmira website on the "Events" section at: <http://investor.tekmirapharm.com/events.cfm>.

#### **About Hypertriglyceridemia**

Hypertriglyceridemia (HTG), a type of dyslipidemia where there are high blood levels of triglycerides (TGs), is an independent risk factor for cardiovascular diseases. Different patient groups are affected by HTG. This includes Familial Chylomicronemia Syndrome (FCS), which is a very rare hereditary condition affecting an estimated one in one million people (<http://fcs.raredr.com>). Patients with severe HTG, (classified as triglyceride levels greater than 1000 mg/dL) are at risk of acute pancreatitis. Approximately one million adults in the US and 18 million people worldwide suffer from severe HTG. (NHANES<sup>1</sup>

2003-2004 data). Furthermore, 35% of patients with Type 2 Diabetes suffer from mixed hyperlipidemia; which is a combination of elevated cholesterol and high triglycerides. These patients are also at considerable risk from cardiovascular disease, because the HTG in these patients is often refractory to statin treatment (Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy 2013, 6, 11-15).

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

RNAi therapeutics have the potential to treat a 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 trigger molecules often require delivery technology to be effective as therapeutics. Tekmira believes its LNP technology represents the most advanced and widely adopted delivery technology for the systemic delivery of RNAi triggers. Tekmira's LNP platform is being utilized in multiple clinical trials in various disease areas by Tekmira and its partners. Tekmira's LNP technology (formerly referred to as stable nucleic acid-lipid particles or SNALP) encapsulates RNAi triggers with high efficiency in uniform lipid nanoparticles that are effective in delivering these therapeutic compounds to disease sites. 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 regulatory agencies 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 dedicated to discovering, developing and commercializing a cure for patients suffering from chronic hepatitis B infection (HBV). Our strategy is to target the three pillars necessary to develop a curative regimen for HBV, including suppressing HBV replication within liver cells, stimulating and reactivating the body's immune system so that it can mount an effective defense against the virus and, most importantly, eliminating the reservoir of viral genomic material known as covalently closed circular DNA, or cccDNA, that is the source of HBV persistence. Our portfolio of assets includes eight drug candidates for use in combination to develop a cure for HBV, and includes our product TKM-HBV currently in Phase 1 clinical studies.

We also have a pipeline of non-HBV assets in oncology, anti-viral and metabolic therapeutics that leverage our expertise in RNA interference (RNAi) therapeutics and leading Lipid Nanoparticle (LNP) technology. RNAi and LNP technology have the potential to generate new therapeutics that take advantage of the body's own natural processes to silence disease causing genes, or more specifically, to eliminate specific gene-products, from the cell. We intend to maximize the value of our non-HBV assets in the clinic, namely: TKM-PLK1 for advanced gastrointestinal neuroendocrine tumors, adrenocortical carcinoma and hepatocellular carcinoma; and TKM-Ebola, and TKM-Ebola-Guinea for ebola virus disease; as well as our preclinical programs in metabolic disorders and filoviruses.

Tekmira is headquartered in Vancouver, BC, Canada with offices in Doylestown, PA, USA. For more information, visit [www.tekmira.com](http://www.tekmira.com).

## **Forward-Looking Statements and Information**

This press release contains forward-looking statements within the meaning of the Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and forward looking information within the meaning of Canadian securities laws (collectively, "forward-looking statements"). Forward-looking statements in this press release include statements about aiming to achieve rapid and sustained reductions of triglycerides and address the limitations of existing HTG treatments with TKM-HTG; advancing TKM-HTG into investigational new drug application-enabling studies; the potential of RNAi therapeutics; Tekmira's LNP technology being the most advanced and widely adopted delivery technology for the systemic delivery of RNAi triggers; Tekmira's strategy for discovering, developing and commercializing a cure for HBV; and Tekmira's intent to maximize the value of their non-HBV assets.

With respect to the forward-looking statements contained in this press release, Tekmira has made numerous assumptions regarding, among other things: LNP's status as the most advanced RNAi delivery technology. 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: TKM-HTG may not prove to be effective in the treatment of HTG; the use of TKM-HTG may not be able to address the limitations of existing HTG treatments; Tekmira's products may not prove to be effective or as potent as currently believed; the FDA may refuse to approve Tekmira's products, or place restrictions on Tekmira's ability to commercialize its products; 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; anticipated pre-clinical and clinical trials may be more costly or take

longer to complete than anticipated, and may never be initiated or completed, or may not generate results that warrant future development of the tested drug candidate; and economic and capital market conditions.

A more complete discussion of the risks and uncertainties facing Tekmira appears in Tekmira's Annual Report on Form 10-K and Tekmira's continuous disclosure filings, which are available at [www.sedar.com](http://www.sedar.com) and at [www.sec.gov](http://www.sec.gov). 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.

<sup>1</sup> NHANES is the National Health and Nutrition Examination Survey, part of the U.S. CDC.

CONTACT: Investors

Julie P. Rezler

Director, Investor Relations

Phone: 604-419-3200

Email: [jrezler@tekmira.com](mailto:jrezler@tekmira.com)

Media

Please direct all media inquiries to [media@tekmira.com](mailto:media@tekmira.com)