UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934

For the month of April 2011

Commission File Number: 001-34949

Tekmira Pharmaceuticals Corporation

(Translation of Registrant's Name Into English)

100-8900 Glenlyon Parkway
Burnaby, British Columbia
Canada, V5J 5J8
(Address of Principal Executive Offices)

(Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.)

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes ☐ No ☒

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): _____

EXHIBITS

The following exhibit is a press release issued by Tekmira Pharmaceuticals Corporation:

Exhibit Number	Description
99.1	Press release dated April 12, 2011

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TEKMIRA PHARMACEUTICALS CORPORATION
(Registrant)

Date: April 12, 2011

By: /s/ Ian C. Mortimer
Name: Ian C. Mortimer
Title: Executive Vice President, Finance and Chief Financial Officer

Tekmira Announces USPTO Issuance of Key Patents Covering LNP Manufacturing Process and Mitigation of siRNA Immune Stimulation

FOR IMMEDIATE RELEASE: **April 12, 2011**

Vancouver, BC — Tekmira Pharmaceuticals Corporation (Nasdaq: TKMR, TSX: TKM), a leading developer of RNA interference (RNAi) therapeutics, announced today that the United States Patent & Trademark Office (USPTO) has recently issued two key patents: one covering its lipid nanoparticle (LNP) manufacturing process and the other covering the chemical modification of siRNA to mitigate immune stimulation.

“We continue to innovate and to protect all aspects of our proprietary LNP technology, which is the gold standard in siRNA delivery. In addition, we are among the leaders in developing RNAi therapeutics, and mitigating the immune stimulatory properties is essential for the success of this class of drugs,” said Dr. Mark J. Murray, Tekmira’s President and CEO.

“We believe Tekmira is central to success in the RNAi field. Our LNP delivery technology represents the most widely-adopted delivery platform for RNAi, and over the past decade we have built the leading intellectual property position in the LNP delivery of RNAi therapeutics. The breadth and depth of our patent estate supports our internal product development as well as that of our partners,” added Dr. Murray.

With the issuance of U.S. Patent No. 7,901,708, the USPTO has granted claims covering Tekmira’s proprietary manufacturing process and apparatus for the production of LNP. Tekmira’s manufacturing process is a proprietary method that is robust and highly reproducible. This process has been reviewed by multiple international regulatory agencies for the production of LNPs used in several ongoing human clinical trials. Tekmira generates revenue by manufacturing LNP based products for its collaboration partners.

With the issuance of U.S. Patent No. 7,915,399, the USPTO has granted claims broadly covering the modification of siRNA sequences to prevent immune stimulation. This patent is central to Tekmira’s growing portfolio of intellectual property covering methods of mitigating siRNA immune stimulation through chemical modification. This intellectual property is based on research by Tekmira scientists regarding the stimulation of the innate immune system by nucleic acids, including siRNA. Specifically, this patent covers the use of 2’-O-methyl nucleotides in an siRNA sequence to reduce the immune stimulatory properties of the siRNA. Based on the work of Tekmira, introducing 2’-O-methyl nucleotides into an siRNA sequence is now one of the most widely-adopted methods of siRNA modification yielding non-immune stimulatory RNAi drugs.

About RNAi and Tekmira’s LNP Technology

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. LNP technology is one of the most widely used siRNA delivery approaches for systemic administration. Tekmira’s LNP technology (formerly referred to as stable nucleic acid-lipid particles or SNALP) encapsulates siRNAs with high efficiency in uniform lipid nanoparticles which 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 www.tekmirapharm.com. Tekmira is based in Vancouver, B.C.

Forward-looking Statements and Information

This press release contains “forward-looking statements” or “forward-looking information” within the meaning of applicable securities laws (collectively, “forward-looking statements”). Forward-looking statements are generally identifiable by use of the words “believes,” “may,” “plans,” “will,” “anticipates,” “intends,” “budgets,” “could,” “estimates,” “expects,” “forecasts,” “projects,” and similar expressions, and the negative of such expressions. Forward-looking statements in this news release include statements about Tekmira’s LNP manufacturing process and chemical modification of siRNA to mitigate immune stimulation; Tekmira’s strategy, future operations, clinical trials, prospects and the plans of management; RNAi (ribonucleic acid interference) product development programs; and the use of lipid nanoparticle (LNP) technology by Tekmira’s collaborative partners and licensees.

With respect to the forward-looking statements contained in this news release, Tekmira has made numerous assumptions regarding, among other things: the effect of the USPTO issuance of patents covering Tekmira’s LNP manufacturing process and chemical modification of siRNA to mitigate immune stimulation; LNP’s status as a leading RNAi delivery technology and the dominant position of Tekmira’s technology in the field of nucleic acid delivery; the use of LNP technology by Tekmira’s collaborative 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: the possibility that chemical modification of siRNA may not mitigate immune stimulation; the possibility that other organizations have made advancements in nucleic acid and RNAi delivery technology that Tekmira is not aware of; anticipated payments under contracts with Tekmira’s collaborative partners will not be received by Tekmira on a timely basis, or at all, or in the quantum expected by Tekmira; Tekmira’s ability to obtain and protect intellectual property rights, and operate without infringing on the intellectual property rights of others; and Tekmira’s internal development programs and the programs of its partners and licensees will not result in expected results on a timely basis, or at all.

A more complete discussion of the risks and uncertainties facing Tekmira appears in Tekmira’s Annual Information Form dated March 30, 2011 and available at www.sedar.com. 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.

Contact Information

Investors
Jodi Regts
Director, Investor Relations
Phone: 604-419-3234

Email: jregts@tekmirapharm.com

Media
David Ryan
Longview Communications Inc.
Phone: 416-669-7906
Email: dryan@longviewcomms.ca