August 12, 2009

Tekmira Pharmaceuticals Corporation Announces Second Quarter 2009 Operating Results and Provides Corporate Update

VANCOUVER, BC — Tekmira Pharmaceuticals Corporation (TSX: TKM) today announced its operating results for the second quarter of 2009.

Dr. Mark J. Murray, Tekmira's President and CEO, said, "Our advancement on all aspects of our business continued through the second quarter of 2009, including the filing of our first Investigational New Drug (IND) application and progress with our other internal product development programs, significant scientific and technical achievements with our SNALP technology platform as well as business development success. We continue to maintain our position among the leaders in RNAi therapeutics with the financial strength to execute our business strategy into mid-2011."

Key achievements during the second quarter of 2009 include:

- Commencement of a Phase 1 human clinical trial for ApoB SNALP, Tekmira's lead RNAi therapeutic product candidate. ApoB SNALP is being developed as a treatment for patients with high LDL cholesterol, or "bad" cholesterol, who are not well served by current therapy. ApoB SNALP is designed to reduce the production of apolipoprotein B (ApoB), a protein produced in the liver that plays a central role in cholesterol metabolism. The Phase 1 clinical trial will evaluate the safety, tolerability and pharmacokinetics of escalating single doses of ApoB SNALP in approximately 30 patients with high levels of LDL cholesterol. The trial may also provide preliminary data on the ability of ApoB SNALP to lower serum LDL cholesterol levels. Patients whose LDL cholesterol is reduced by greater than 15% from baseline will be followed until their LDL cholesterol levels return to baseline. Tekmira expects to complete the trial in early 2010.

- Presentation of new data on the company's two lead product candidates, ApoB SNALP and PLK1 SNALP, at the 12th Annual ASGT Meeting held May 27-30, 2009. The new data included evidence that a single administration of ApoB SNALP results in the reduction of ApoB protein and LDL cholesterol that lasts longer than 1 month in non-human primates. Tekmira also presented at an educational session that addressed the importance of mitigating immune stimulation in the development of small interfering RNA (siRNA) drugs, which was the basis for a recently published review article by Tekmira scientists.

- Progress on the company's objective to file an IND for PLK1 SNALP in 2010 and develop the product candidate as a treatment for cancer. Tekmira scientists have evaluated numerous SNALP formulations designed to treat either liver cancer or tumors outside the liver that result in significant inhibition of tumor growth and prolonged survival of treated animals. Importantly, PLK1 SNALP was well tolerated and the anti-tumor activity was confirmed to be the result of silencing PLK1 via RNA interference.

- Initiation of the company's product development collaboration with Roche (SWX: ROG.VX; RO.S, OTCQX: RHHBY). The Roche partnership includes payments to Tekmira of up to US$18.4 million to support preclinical development of Roche's first two RNAi products that use Tekmira's SNALP technology. Tekmira also has the opportunity to receive up to US$32 million in milestone payments, plus royalties on product sales. Roche expects to file an IND application for the first product in 2010.

- Initiation by Tekmira's partner Alnylam Pharmaceuticals, Inc. (Nasdaq: ALNY) of a Phase 1 human clinical trial of ALN-VSP. ALN-VSP, a product that utilizes Tekmira's SNALP technology, is being developed as a treatment for advanced liver cancers, including hepatocellular carcinoma and other solid tumors with liver involvement. Tekmira received a milestone payment upon the initiation of the Phase 1 trial and Tekmira is responsible for the manufacturing of ALN-VSP drug product. On August 6, 2009, Alnylam announced that it had selected ALN-TTR is its next product for development. ALN-TTR utilizes Tekmira's SNALP delivery technology and Alnylam expects to file an IND by the end of 2009. Tekmira is eligible to receive up to US$16 million in milestones on each RNAi therapeutic advanced by Alnylam that utilizes the company's technology, as well as royalties on product sales, and a minimum of $11.2 million in payments to Tekmira for manufacturing services from 2009 to 2011.

- Concluding the second quarter with $28.4 million in cash and equivalents through prudent management of expenses and strong revenue from Tekmira's product development partners. Tekmira believes the current cash on hand and the

estimated revenue from partners will enable Tekmira to execute its current business strategy through mid-2011 without the need for additional financing.

FINANCIAL RESULTS

For the first half of 2009 net loss was $4.3 million ($0.08 per common share) as compared to a net loss of $5.3 million ($0.18 per common share) for the first half of 2008. For the three months ended June 30, 2009, net loss was $2.3 million ($0.04 per common share) as compared to a net loss of $4.8 million ($0.14 per common share) for the second quarter of 2008.

There are a number of factors contributing to the changes in results including the expansion of Tekmira's business following its combination with Protiva on May 30, 2008.

Revenue / Revenue from research and development collaborations, licensing fees and milestone payments was $3.8 million for Q2 2009 as compared to $2.5 million for Q2 2008 and was $6.7 million for the first half of 2009 as compared to $4.4 million for the first half of 2008. The increase is largely a result of Tekmira's manufacturing and research agreements with Alnylam, a milestone payment from Alnylam and the expansion of the company's collaboration with Roche.

Alnylam revenue / Research and development collaborations revenue from Alnylam was $2.2 million for Q2 2009 as compared to $1.2 million for Q2 2008 and was $4.6 million for the first half of 2009 as compared to $1.8 million for the first half of 2008. Under an agreement with Alnylam they are required to make collaborative research payments at a minimum rate of US$2.0 million per annum for the provision of Tekmira's research staff until August 13, 2009. Under a manufacturing agreement Tekmira is the exclusive manufacturer of any products required by Alnylam that utilize the company's technology through to the end of Phase 2 clinical trials and there is a contractual minimum payment for the provision of staff in each of the three years from 2009 to 2011. The total payment for the provision of staff from 2009 to 2011 is a minimum of $11.2 million. Tekmira is recognizing revenue for the provision of staff under a manufacturing agreement based on actual staff hours provided. Collaborative revenue from Alnylam has generally increased as Alnylam advances its products into clinical trials.

Tekmira is eligible to receive up to US$16.0 million in milestones for each RNAi therapeutic advanced by Alnylam or its partners that utilizes Tekmira's intellectual property, and royalties on product sales. On April 3, 2009 Alnylam announced that they had initiated a Phase 1 human clinical trial for ALN-VSP, a product candidate that utilizes Tekmira's SNALP technology. The initiation of the ALN-VSP Phase 1 clinical trial triggered a milestone payment of $0.6 million (US$0.5 million) that was received and recorded as revenue in the second quarter of 2009.

Roche revenue / Research and development collaborations revenue from Roche was $1.0 million for Q2 2009 as compared to $0.0 million for Q2 2008 and was $1.4 million for the first half of 2009 as compared to $0.0 million for the first half of 2008. Under a Roche product development agreement, Roche pays for the provision of staff and for external costs incurred and, to that end, they paid Tekmira $1.1 million (US$1.0 million) in the second quarter of 2009. Tekmira is recognizing revenue in proportion to the services provided up to the reporting date by comparing actual hours spent to estimated total hours for each project under the contract. Revenue from external costs incurred on Roche product candidates is being recorded in the period that Roche is invoiced for those costs.

Tekmira also received $0.8 million in Q2 2009 under a Roche research agreement. Work under this agreement was carried out in the first half of 2009 and the payment was recognized as research and development collaborations revenue during that period.

Expenses / Research, development and collaborations / Research and development expenses decreased to $4.4 million in Q2 2009 as compared to $5.7 million for Q2 2008 but increased to $8.0 million for the first half of 2009 as compared to $7.6 million for the first half of 2008. As a result of the business combination with Protiva on May 30, 2008, the level and cost of research and development activities have increased. Also, Tekmira's intellectual property portfolio and related expenses have expanded. However, Q2 and first half 2008 research and development expenses were unusually high due to two compensation related charges. Firstly, stock based compensation for research and development staff was $0.2 million for the first half of 2009 as compared to $1.0 million for the first half of 2008 as Tekmira's Board approved the accelerated vesting of all stock options concurrent with the announcement of the business combination with Protiva. Secondly, in Q2 2008 the company accrued $2.0 million for payments due to its former CEO and this has been allocated 75% to research and development expenses and 25% to general and administrative expenses. There is no equivalent expense in 2009.

Research and development staff numbers have decreased to 66 at June 30, 2009 (total staff 78) as compared to 77 (total staff 93) at June 30, 2008. The decrease was primarily attributable to a workforce reduction in October 2008 as part of the integration of the operations of Tekmira and Protiva. However, just prior to the business combination on May 30, 2008 total staff numbers were only 49 so first half 2009 staff expenses are considerably higher than first half 2008 staff expenses. Tekmira now occupies the majority of its leased facility whereas early in 2008 it was receiving sub-lease income for two-thirds of the facility. Program expenses for ApoB SNALP and PLK1 SNALP also contributed to 2009 research and development expenses. Also, up until the business combination on May 30, 2008 Tekmira was not performing any manufacturing work for Alnylam whereas in the first half of 2009 Tekmira produced a number of batches and incurred related costs that are being

charged through to Alnylam.

General and administrative / General and administrative expenses decreased to $1.1 million for Q2 2009 as compared to $1.8 million for Q2 2008 and decreased to $2.1 million for the first half of 2009 as compared to $2.5 million for the first half of 2008. Base line general and administrative costs have increased due to the greater size of Tekmira's organization following the business combination. However, second quarter and first half 2008 general and administrative expenses were unusually high due to the two compensation related charges discussed earlier.

LIQUIDITY AND CAPITAL RESOURCES

At June 30, 2009, Tekmira had cash, cash equivalents and short-term investments of approximately $28.4 million as compared to $31.9 million at December 31, 2008.

In its 2008 Annual Report, Tekmira provided guidance that it had sufficient funds on hand to continue product development until some time in the second half of 2010. As a result of signing a product development agreement with Roche, Tekmira now believes that current funds on hand plus expected interest income and the contractually payable funds due from collaborators will be sufficient to continue product development until mid-2011 (see Forward-Looking Statements for a discussion of assumptions made in arriving at this estimate).

About RNAi and SNALP
RNAi drugs have the potential to treat human diseases by "switching-off" disease causing genes. The technology, representing one of the most promising and rapidly advancing frontiers in biology and drug discovery, was awarded the 2006 Nobel Prize for Physiology or Medicine. RNAi drugs, such as siRNA, require delivery technology to be administered systemically. In preclinical studies, Tekmira's SNALP (stable nucleic acid-lipid particles) technology has been shown to be a safe and effective way to deliver RNAi drugs to disease sites. Tekmira believes it has a leading intellectual property position in the field of siRNA delivery.

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. 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.

More particularly and without limitation, this press release contains forward-looking statements, assumptions and information concerning the company's potential, the potential of RNAi therapeutics as a treatment for disease, product development plans, the number and timing of advancement of products into clinical development, the plans of collaborative partners and the impact of those collaborations on product development activities and financial resources. There are circumstances and factors that may cause assessments included in these forward-looking statements to materially change. Such circumstances and factors include the failure of RNAi therapies to become commercially viable, Tekmira's inability or a collaborative partner's inability to develop commercially viable RNAi therapies and changes to the product development plans of collaboration partners.

Also included in this press release is an estimate of the length of time that Tekmira's business will be funded by its anticipated financial resources. There are circumstances and factors that may cause actual cash usage to be materially different from Tekmira's current estimate of the adequacy of its cash resources. Such circumstances and factors include the following: preclinical trials may not be completed, or clinical trials started, when anticipated; preclinical and clinical trials may be more costly or take longer to complete than currently anticipated; preclinical or clinical trials may not generate results that warrant future development of the tested drug candidate; funding and milestone payments from research and product development partners may not be provided when required under agreements with those partners; decisions to in-license or acquire additional products for development; Tekmira may become subject to product liability or other legal claims for which the company has made no accrual in its financial statements; the sufficiency of budgeted capital expenditures in carrying out planned activities; and the availability and cost of labour and services.

The business of Tekmira is also subject to other risks and factors that may cause actual results, events or developments to be materially different from any future results, events or developments expressed or implied by any forward-looking statement and

information. Such factors include, among others, the stage of development of Tekmira, lack of product revenues, additional capital requirements, the need to obtain regulatory approval to commence clinical trials, risks associated with the completion of clinical trials and obtaining regulatory approval to market Tekmira's products, the safety and efficacy of Tekmira's products, the ability to protect Tekmira's intellectual property and dependence on collaborative partners.

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.

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