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NEW STUDY PUBLISHED IN PNAS CONFIRMS POTENTIAL UTILITY OF MARILLION'S NANOPARTICLE TECHNOLOGY FOR TUMOR TARGETING AGENTS

--Findings in the Prestigious "Proceedings of the National Academy of Sciences" Describe How Natural Nanoparticles Can Be Adapted to Fight Cancer --

Philadelphia, PA, November 28, 2005 – Marillion Pharmaceuticals, an emerging biotechnology company developing cancer therapeutics, announced that the science underlying its core technology was published in the "Proceedings of the National Academy of Sciences" (PNAS), a peer-reviewed journal. Marillion's nanopatform conjugates tumor-homing molecules to naturally occurring nanoparticles responsible for lipid transport throughout the body. The adapted nanoparticles are able to deliver anti-cancer drugs directly into tumor cells. The technology was developed by scientists from the University of Pennsylvania who helped found the company and who are co-authors of the scientific study published in the PNAS.

Marillion's nanoparticles, called conjugated lipoproteins, are less than 25 nm in diameter, more than 10,000 times smaller than the width of a human hair. Because of their small size they can pass through blood vessel walls to ferry their cargo of anti-cancer drugs to targeted receptors and directly into the cancer cells, leaving the surrounding healthy tissue unaffected.

"We have shown that we can empty these naturally occurring nanoparticles, fill them with chemotherapeutic and imaging agents and then re-route them away from their natural receptors directly to tumor cells," says Gang Zheng, Ph.D., University of Pennsylvania researcher and Marillion co-founder.

There is a great deal of research activity underway attempting to apply nanoparticle technology to cancer therapy. However, many of the nanoparticles currently being developed are synthetic and may themselves prove toxic to the body, precisely because of their ultra-small size and complex interactions with tissues. Marillion intends to avoid these problems by adapting naturally occurring nanoparticles, which are less susceptible to these toxic effects.

Jerry Glickson, Ph.D. also at the University of Pennsylvania and a co-founder of Marillion, added, "As described in the journal, the targeting entity in this study was folic acid, which binds to specific receptors found on certain types of cancers and directs the nanoparticle to the tumor. Other targeting entities can also be attached to guide the nanoparticles to alternate tumors or to the tumor vasculature, where agents can be delivered that fight the cancer by literally starving the tumor of it's essential blood supply. The particles' trajectory through the body can also be tracked by attaching imaging agents to the nanoparticle, providing the potential for an innovative 'see and treat' approach to cancer therapy."

more

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Marillion's natural nanoparticles have a number of potential advantages. They are completely biodegradable, have a long half-life in the circulation, can be used with numerous types of targeting agents, are capable of delivering a variety of different types of drugs, and are multifunctional, allowing them to be "loaded" with imaging and therapeutic agents both inside and on the surface of the nanoparticle. Marillion is currently using its nanoparticles to carry the widely used chemotherapeutic drug paclitaxel into ovarian tumors, and it plans to initiate clinical trials with its first nanopatform-based drugs within the next two years.

"Our natural nanoparticles can be designed to act as miniature drug-laden missiles that are small enough to target tumor cells, yet are expected to be devoid of immunogenic and other adverse effects on the body," said Zahed Subhan, Ph.D., J.D., CEO of Marillion. "The results reported in PNAS bode well for the development of our practical nanoparticle-based approach to improving treatment and outcomes for many cancer patients."

The article titled "**Rerouting lipoprotein nanoparticles to selected alternate receptors for the targeted delivery of cancer diagnostic and therapeutic agents**" initially appeared in the PNAS on-line edition on November 23, 2005. Co-authors Dr. Gang Zheng, assistant professor in the department of radiology and Dr. Jerry Glickson, director of molecular imaging and professor of radiology, biochemistry & biophysics, are both at the University of Pennsylvania. The company was founded with seed money from BioAdvance, the Biotechnology Greenhouse of Southeastern Pennsylvania. Since its inception in 2002, BioAdvance has committed more than \$10 million of its Greenhouse Fund to 29 enterprises and research projects.

About Marillion

Marillion Pharmaceuticals is a dynamic pharmaceutical company dedicated to the discovery, development and commercialization of anticancer drugs based on proprietary tumor targeting technologies licensed exclusively from the University of Pennsylvania. The company is building a pipeline of drugs that are designed to selectively target tumor cells so that they are significantly more effective in killing diseased cells and less toxic to healthy tissues than conventional therapies. Additional information about Marillion is available on the company's website at www.marillionpharma.com.

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