



PRESS RELEASE

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CALANDO PHARMACEUTICALS PUBLISHES THE FIRST NON-HUMAN PRIMATE STUDY ON TARGETED, SYSTEMIC DELIVERY OF siRNA IN NATIONAL ACADEMY OF SCIENCES JOURNAL

PASADENA, Calif.—March 20, 2007—Calando Pharmaceuticals, a leading siRNA therapeutics company and a majority-owned subsidiary of Arrowhead Research Corporation (NASDAQ: ARWR) announced the publication in the Proceedings of the National Academy of Sciences (PNAS), the scientific journal of the NAS, of the first non-human primate study to use multiple, systemic dosing with Calando's lead siRNA therapeutic candidate that is a nanoparticle containing non-chemically modified siRNA and a transferrin protein targeting agent.

The paper, entitled "Administration in non-human primates of escalating intravenous doses of targeted nanoparticles containing ribonucleotide reductase subunit M2 siRNA", was published online in the Early Edition of the PNAS. This paper details the results of a pilot safety study of Calando's lead siRNA-containing nanoparticle formulation (CALAA-01) in monkeys. In this dose-escalation experiment, systemically-administered nanoparticles were well-tolerated at doses significantly above those that had been previously shown to be efficacious with a similar formulation in murine cancer models. Overall, this study shows that multiple, systemic doses of CALAA-01 can safely be administered to non-human primates, and is the first example of multiple systemic dosing of siRNA in monkeys.

The formulation investigated contains Calando's proprietary delivery technology with a non-chemically modified siRNA duplex targeting the M2 subunit of ribonucleotide reductase, a well-established cancer target. This duplex, developed by Calando, demonstrates potent anti-proliferative activity across multiple types of cancer in vitro and in vivo. The objective of this escalating-dose pilot study was to assess numerous safety-related parameters for this formulation in non-human primates since it is known that proper evaluation of complement activation is best performed in this type of animal prior to human use.

"The experimental work reported in this paper shows that CALAA-01 can safely be repeatedly administered to large animals," said Jeremy Heidel, Calando's Chief Scientific Officer. "We observed a lack of significant immunostimulation and, notably, the absence of complement activation, even at the highest dose administered. The results of this study are promising and suggest further investigation of CALAA-01 is warranted."

"These results demonstrate that our lead siRNA formulation CALAA-01 is well tolerated at levels many times higher than what we would expect to be an efficacious dose in humans," said John Petrovich, Calando's Chief Executive Officer. "We are proceeding with full IND-enabling toxicology studies as the next step toward commencing what we believe will be the first Phase I clinical trial with a targeted, systemic formulation of siRNA by the end of 2007."

Established in 1914, PNAS is one of the world's most-cited multidisciplinary scientific serial publications. Coverage in PNAS includes research reports, commentaries, reviews, perspectives and colloquium papers that span the biological, physical and social sciences, as well as the actions of the Academy. PNAS is published weekly in print, and daily online in PNAS Early Edition at <http://www.pnas.org>.

About RNA Interference (RNAi)

RNA interference, or RNAi, is a naturally occurring mechanism within cells for selectively silencing and regulating specific genes. Since many diseases are caused by the inappropriate activity of specific genes, the ability to silence genes selectively through RNAi could provide a new way to treat a wide range of human diseases. RNAi is induced by small, double-stranded RNA molecules. One method to

activate RNAi is with chemically synthesized small interfering RNAs, or siRNAs, which are double-stranded RNAs that are targeted to a specific disease-associated gene. The siRNA molecules are used by the natural RNAi machinery in cells to cause highly targeted gene silencing.

About Calando Pharmaceuticals Inc.

Calando Pharmaceuticals Inc. (www.calandopharma.com), a majority owned subsidiary of Arrowhead Research Corporation (NASDAQ: ARWR), is using its proprietary technologies in targeted polymeric delivery systems and siRNA design to design and create new, targeted siRNA therapeutics. The company is pursuing this goal through its internal research and development and also through collaborations and partnerships with pharmaceutical and biotechnology companies.

Calando Technology

Calando's cyclodextrin-containing polymers form the foundation for its two-part siRNA delivery system. The first component is a linear, cyclodextrin-containing polycation that, when mixed with small interfering RNA (siRNA), binds to the anionic "backbone" of the siRNA. The polymer and siRNA self-assemble into nanoparticles of approximately 50-80 nm diameter that fully protect the siRNA from nuclease degradation in serum. The siRNA delivery system has been designed to allow for intravenous injection. Upon delivery to the target cell, the targeting ligand binds to membrane receptors on the cell surface and the RNA-containing nanoparticle is taken into the cell by endocytosis. There, chemistry built into the polymer functions to unpackage the siRNA from the delivery vehicle. In addition to targeting tumors, the targeting of liver cells has also been accomplished *in vivo*.

About Arrowhead Research Corporation

Arrowhead Research Corporation (www.arrowheadresearch.com) is a publicly-traded nanotechnology company commercializing new technologies in the areas of life sciences, electronics, and energy. Arrowhead is building value for shareholders through the progress of majority owned subsidiaries founded on nanotechnologies originally developed at universities. The company works closely with universities to source early stage deals and to generate rights to intellectual property covering promising new nanotechnologies. Currently, Arrowhead has four subsidiaries commercializing nanotech products and applications, including anti-cancer drugs, RNAi therapeutics, carbon-based electronics and compound semiconductor materials.

Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995:

This news release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based upon our current expectations and speak only as of the date hereof. Our actual results may differ materially and adversely from those expressed in any forward-looking statements as a result of various factors and uncertainties, including the recent economic slowdown affecting technology companies, the future success of our scientific studies, our ability to successfully develop products, rapid technological change in our markets, changes in demand for our future products, legislative, regulatory and competitive developments and general economic conditions. Our Annual Report on Form 10-K and 10-K/A, recent and forthcoming Quarterly Reports on Form 10-Q and 10-Q/A, recent Current Reports on Forms 8-K and 8-K/A, our Registration Statements on Form S-3, and other SEC filings discuss some of the important risk factors that may affect our business, results of operations and financial condition. We undertake no obligation to revise or update publicly any forward-looking statements for any reason.

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