



## **STARPHARMA'S US ASSOCIATE DNT ANNOUNCES MAJOR COLLABORATION ON DENDRIMER BASED CANCER DETECTION TECHNOLOGY**

Melbourne, Australia – 11 October 2005 – Dendritic Nanotechnologies, Inc (DNT), an investee company of Starpharma Holdings Limited, has released the attached press announcement regarding a major collaboration with the Nanotechnology Characterization Laboratory (NCL), an organization established by the US National Cancer Institute.

As well as being a major endorsement of DNT's technology, this collaboration will provide a valuable contribution to the pre-clinical development program for dendrimer based cancer detection technology leading up the submission of an Investigational New Drug (IND) filing with the US Food and Drug Administration.

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### **About Starpharma:**

Starpharma Holdings Limited (ASX:SPL, USOTC:SPHRY) leads the world in the application of nanotechnology to pharmaceuticals. The Company's lead development product is VivaGel™, a vaginal microbicide designed to prevent the transmission of STIs, including HIV and genital herpes.

VivaGel™ is the first example of a product to come from Starpharma's dendrimer-based discovery pipeline, which also includes specific programs in the fields of ADME Engineering™ (using dendrimers to control where and when drugs go when introduced to the body), Polyvalency (using the fact that dendrimers can activate multiple receptors simultaneously) and Targeted Diagnostics (using dendrimers as a scaffold to which both location-signaling and targeting groups are added to allow location of specific cell type, such as cancer cells).

Starpharma also has equity interests in two companies:

- *Dendritic NanoTechnologies, Inc. (DNT)* – established with the pioneer of dendrimer nanotechnology Dr Donald A. Tomalia and based in Michigan, USA; and
- *Dimerix Bioscience Pty Ltd* – a specialist drug development company established to commercialise unique technology developed at the Western Australian Institute for Medical Research in the new field of receptor coupling, specifically G-Protein coupled receptors ("GPCRs").

**Dendrimers:** A type of precisely-defined, branched nanoparticle. Dendrimers have applications in the medical, electronics, chemicals and materials industries.

**Microbicides:** A microbicide inactivates, kills or destroys microbes such as viruses and bacteria. Microbicides may be formulated as gels, creams, sponges, suppositories or films with the purpose of reducing significantly the incidence of STIs. They are intended for vaginal or rectal use to afford protection for varying periods, from several hours up to days. Microbicides may also be designed to have a contraceptive function.

**American Depositary Receipts (ADRs):** Starpharma's ADRs trade under the code **SPHRY** (CUSIP number 855563102). Each Starpharma ADR is equivalent to 10 ordinary shares of

Starpharma as traded on the Australian Stock Exchange. The Bank of New York is the depositary bank.

**For further information:**

<b>Media</b>	<b>Starpharma</b> <a href="http://www.starpharma.com">www.starpharma.com</a>	
<b>Rebecca Wilson</b> Buchan Tel: +61 2 9237 2800 Mob: +61 417 382 391 <a href="mailto:rwilson@bcg.com.au">rwilson@bcg.com.au</a>	<b>Dr John Raff</b> Chief Executive Officer +61 3 8532 2701 <a href="mailto:john.raff@starpharma.com">john.raff@starpharma.com</a>	<b>Ben Rogers</b> Company Secretary +61 3 8532 2702 <a href="mailto:ben.rogers@starpharma.com">ben.rogers@starpharma.com</a>



## FOR IMMEDIATE RELEASE

### **DENDRITIC NANOTECHNOLOGIES Signs One of First Characterization Collaboration Agreements with Nanotechnology Characterization Laboratory**

**MOUNT PLEASANT, MI—October 10, 2005—** DENDRITIC NANOTECHNOLOGIES INC. (DNT), a company that is focused on the discovery, development, and commercialization of dendrimer technologies to create a new generation of innovative products for the identification and treatment of human diseases, has entered into one of the first characterization collaborations with the Nanotechnology Characterization Laboratory (NCL), an organization established by the National Cancer Institute to foster collaboration between the government and the private sector. The agreement with NCL will focus on the characterization by NCL of DNT's STARBURST™ dendrimers as macromolecular dendrimer-based MRI contrast agents for sensitive, non-invasive cardiovascular diagnostics.

DNT's STARBURST and Priostar™ dendrimers are "smart" biopharmaceutical nanotechnology platforms that can be used to deliver precise quantities of a drug or contrast agent to a specific location within the human body. DNT's dendrimers will be subjected to an assay cascade consisting of physical characterization, *in vitro* studies, and *in vivo* ADME/Tox protocols to determine their absorption, distribution, metabolism, excretion, and toxicity. DNT's proprietary dendrimer platform also serves as a targeted diagnostic and therapeutic delivery system for a wide variety of drugs to cancer cells and other diseases. Improved efficacy, enhanced solubility, and lower toxicity have been demonstrated for many existing drugs.

The intent of these studies is to generate data in support of an investigative new drug (IND) filing with the U.S. Food and Drug Agency (FDA). It is estimated that the NCL's characterization efforts will take approximately 12–15 months.

"Development of dendrimer-based MRI contrast agents for sensitive, non-invasive intravascular agents is highly desired in the medical world," said Robert Berry, DNT's chief executive officer. "DNT's STARBURST dendrimers have demonstrated intravascular properties that increase sensitivity and image clarity with potentially lower dosage compared to currently available general-use contrast agents. DNT's smart nanostructures feature precise and predictable physical properties that make them especially useful in commercial applications requiring novel properties with nanometer precision."

The collaboration agreement with DNT is one of the first characterization agreements entered into by the NCL and will be used to perform a preclinical assessment of DNT's intravascular dendrimer-based MRI contrast agents. These assessments will help provide the data necessary to enter the FDA's Phase I clinical trials. This will be the second dendrimer-based application submitted to FDA: Starpharma Holdings Ltd. (a DNT license holder and investor) is currently undertaking clinical trials with a dendrimer-based topical microbicide, VivaGel™, aimed at the prevention of HIV.

In 2005, the National Institute of Standards and Technology, the Food and Drug Administration, and the National Cancer Institute established the Nanotechnology Characterization Laboratory to perform preclinical efficacy and toxicity testing of nanoscale

materials. A key activity of the NCL will be to work with FDA scientists to develop an assay cascade that can serve as the standard protocol for preclinical toxicology, pharmacology, and efficacy of nanoscale materials. This assay cascade will characterize a nanoscale device's physical attributes, its *in vitro* biological properties, and its *in vivo* compatibility.

### **Dendrimers – an Emerging Platform for New Diagnostics**

The versatility of the dendrimer architecture provides DNT and its commercial partners with unique advantages. The ability to control the properties of size, surface, and encapsulation are critical to any intravascular agent product. Feasibility studies on dendrimer-based contrast agents have demonstrated excellent carrying capacity, superior image enhancement, and sufficient retention for imaging, with good routes of elimination. The use of dendrimers as a platform for new therapies has already yielded excellent results: DNT has encapsulated Magnevist<sup>®</sup>, AG Schering's off-patent, low molecular weight, market-leading contrast agent, within its STARBURST and Priostar dendrimers. DNT's technology has allowed Magnevist molecules to be contained within the dendrimer interior, resulting in the creation of a macromolecular contrast agent with the surface available for further modification.

### **About the Nanotechnology Characterization Laboratory**

The Nanotechnology Characterization Laboratory (NCL) performs and standardizes the pre-clinical characterization of nanomaterials intended for cancer therapeutics and diagnostics developed by researchers from academia, government, and industry. The NCL serves as a national resource and knowledge base for cancer researchers, and facilitates the development and translation of nanoscale particles and devices for clinical applications.

The National Cancer Institute believes that the NCL's activities will markedly speed the development of nanotechnology-based products for cancer patients, reduce the risk of doing so, and encourage private-sector investment in this promising area of technology development. By achieving its goals, the NCL will provide a comprehensive set of baseline characterization parameters that will enable cancer biologists, drug and diagnostic developers, and clinical oncologists to apply their tools to solving problems that most affect cancer patients. This work will also lay a scientific foundation that will enable the FDA to make sound decisions concerning the testing and approval of nanoscale cancer diagnostics, imaging agents, and therapeutics. See <http://ncl.cancer.gov>.

### **About DNT**

DENDRITIC NANOTECHNOLOGIES INC. (DNT) is focused on the discovery, development, and commercialization of dendrimer technologies to create a new generation of innovative products for the identification and treatment of human diseases. DNT's proprietary dendrimer platform serves as a targeted diagnostic and therapeutic delivery system for a wide variety of drugs to cancer cells and other diseases. Improved efficacy, enhanced solubility, and lower toxicity have been demonstrated for many existing drugs.

DNT is committed to producing commercially viable dendrimers that can be manufactured in large quantities, and to driving down manufacturing complexity and costs. The company has a patent pending on its Priostar<sup>™</sup> family of dendrimers, a novel dendrimer family that breaks through previous cost and manufacturing barriers.

DNT's technology development is directed by Donald A. Tomalia, Ph.D., president and chief technical officer. Dr. Tomalia is the inventor of dendrimers and has led numerous commercial developments during a 25-year management and senior scientist career with The Dow Chemical Company.

DNT is committed to developing and integrating dendrimer technologies via corporate alliances that allow DNT scientists to use their combined expertise to assist business partners by accelerating the pre-clinical development of products that are significantly more effective and safer.

See <http://www.dnanotech.com>.

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**Media contact:**

Tim Cox — Zing Public Relations

+1-650-369-7784 office — +1-650-888-6116 cell

[tim@zingpr.com](mailto:tim@zingpr.com)