July 29, 2015

Navidea Awarded $1.7 Million Fast Track NIH SBIR Grant for Evaluation of Manocept™ in Rheumatoid Arthritis

- Also notified of release of $3.2 million in funding for parts 2 & 3 of previously awarded SBIR grants in support of clinical studies for cervical cancer and Alzheimer's Disease -

DUBLIN, Ohio--(BUSINESS WIRE)-- Navidea announces the receipt of an initial notice of award for a Fast Track Small Business Innovation Research (SBIR) grant providing for up to $1.7 million from the National Institutes of Health's (NIH) National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMD), to fund preclinical animal studies and a Phase 1/2 human clinical study examining the ability of Tc 99m-tilmanocept, a Manocept™ platform product, to identify skeletal joints that are inflamed due to rheumatoid arthritis (RA). RA is a chronic, progressive, systemic autoimmune disease characterized by inflammation of numerous skeletal joints. If not treated successfully, RA can lead to disability, disfigurement and premature death.

The funds for this Fast Track grant will be released in two parts, which together have the potential to provide a total of $1.7 million in resources over 2.5 years to achieve the specific aims and objectives of the grant. The first part will provide $225,000 to support preclinical animal studies and to support activities needed to prepare for the Phase 1/2 clinical study. The second part of the award will support the Phase 1/2 study, the results from which are expected to confirm the safety and effectiveness of Tc 99m-tilmanocept to identify skeletal joint inflammation due to RA.

"Because the therapies for RA are most effective when given early in the course of the illness, improved ability for accurate, early diagnosis along with more accurate monitoring of therapies could lead to improved patient outcomes," commented Michael Tomblyn, M.D., Navidea's Chief Medical Officer. "This grant will, as a follow on to other successful pre-clinical work, enable human evaluation for the first time of the IV administration of tilmanocept to identify peripheral skeletal joints that are inflamed as a result of ongoing RA pathology and to differentiate RA from osteoarthritis patients."

"Developing future medical applications which unlock the potential for our CD206-targeting imaging agent, tilmanocept, is a corporate priority," said Frederick O. Cope, Ph.D., FACS, Chief Scientific Officer of Navidea. These studies will broaden the use of the Manocept platform to other potential macrophage-associated diseases and will evaluate a new approach to tilmanocept delivery with future implications in therapeutic development.

About the Phase 1/2 Clinical Study Efforts
This study has been designed as a single center, open-label, non-randomized, Phase 1/2 Clinical Study of 44 individuals to investigate the ability of Tc 99m-tilmanocept to identify RA

inflamed joints and to identify early RA patients among those with polyarthralgia/polyarthritis (P/P). There is intent to study three groups of subjects: participants with active RA, participants with recent development of P/P or healthy, arthritis free individuals over the age of 50. If this project is successful, follow on studies will investigate if tilmanocept can be used to target delivery of therapeutics to RA inflamed joints thereby increasing the potential effectiveness of treatments.

Updates on Additional SBIR Grants

In addition to this new award for RA, Navidea recently received confirmation of funding parts 2 and 3 of previously awarded NIH SBIR grants supporting clinical studies for Lymphoseek in cervical cancer ($1.5 million) and for NAV4694 in Alzheimer's Disease and Mild Cognitive Impairment ($1.7 million).

About Rheumatoid Arthritis

RA is a chronic, progressive, systemic autoimmune disease affecting about 1.3 million[1] in the US and is characterized by inflammation of numerous skeletal joints. If not treated successfully, RA can lead to disability, disfigurement and premature death. The recent advent of disease-modifying anti-rheumatic drugs (DMARDs) has dramatically improved outcomes for many RA patients. Three problems persist: DMARDs are most effective when RA symptoms first appear and current technologies for diagnosing RA are least accurate; monitoring the effectiveness of DMARD therapy is challenging; and a significant portion of RA patients respond poorly or not at all to current DMARDs. Therefore, there are significant unmet medical needs for a more accurate RA diagnosis, especially in the early stages of the disease, and for more effective RA therapies.

About the Manocept™ CD206-targeting platform

The Manocept™ platform is predicated on the ability to specifically target the CD206 mannose receptor expressed on macrophages. Macrophages play important roles in many disease states and are an emerging target in many disorders. This flexible and versatile platform acts as an engine for purpose-built molecules that may enhance diagnostic accuracy, clinical decision-making, targeted treatments and ultimately patient care. As a diagnostic tool, the Manocept technology has the potential to utilize a breadth of imaging modalities, including SPECT, PET, intra-operative and/or optical-fluorescence detection. By adding a therapeutic agent on the Manocept molecular backbone, there is the potential to develop novel, targeted immunotherapies specifically designed to selectively deliver an agent that can kill or alter disease-associated macrophages. Navidea's FDA-approved precision diagnostic imaging agent, Lymphoseek® (technetium 99m tilmanocept) injection, is representative of the platform's ability to successfully exploit this mechanism and offer the potential for development of new CD206-targeted diagnostic agents and therapeutics.

About Lymphoseek®

Lymphoseek® (technetium Tc 99m tilmanocept) injection is the first and only FDA-approved receptor-targeted lymphatic mapping agent. It is a novel, receptor-targeted, small-molecule radiopharmaceutical used in the evaluation of lymphatic basins that may have cancer involvement in patients. Lymphoseek is designed for the precise identification of lymph nodes that drain from a primary tumor, which have the highest probability of harboring cancer. Lymphoseek is approved by the U.S. Food and Drug Administration (FDA) for use in solid tumor cancers where lymphatic mapping is a component of surgical management and for guiding sentinel lymph node biopsy in patients with clinically node negative breast cancer,

melanoma or squamous cell carcinoma of the oral cavity. Lymphoseek has also received European approval in imaging and intraoperative detection of sentinel lymph nodes in patients with melanoma, breast cancer or localized squamous cell carcinoma of the oral cavity.

Accurate diagnostic evaluation of cancer is critical, as it guides therapy decisions and determines patient prognosis and risk of recurrence. Overall in the U.S., solid tumor cancers may represent up to 1.2 million cases per year. The sentinel node label in the U.S. and Europe may address approximately 235,000 new cases of breast cancer, 76,000 new cases of melanoma and 45,000 new cases of head and neck/oral cancer in the U.S., and approximately 367,000 new cases of breast cancer, 83,000 new cases of melanoma and 55,000 new cases of head and neck/oral cancer diagnosed in Europe annually.

Lymphoseek Indication and Important Safety Information
Lymphoseek is a radioactive diagnostic agent indicated with or without scintigraphic imaging for:

- Lymphatic mapping using a handheld gamma counter to locate lymph nodes draining a primary tumor site in patients with solid tumors for which this procedure is a component of intraoperative management.
- Guiding sentinel lymph node biopsy using a handheld gamma counter in patients with clinically node negative squamous cell carcinoma of the oral cavity, breast cancer or melanoma.

Important Safety Information
In clinical trials with Lymphoseek, no serious hypersensitivity reactions were reported, however Lymphoseek may pose a risk of such reactions due to its chemical similarity to dextran. Serious hypersensitivity reactions have been associated with dextran and modified forms of dextran (such as iron dextran drugs).

Prior to the administration of Lymphoseek, patients should be asked about previous hypersensitivity reactions to drugs, in particular dextran and modified forms of dextran. Resuscitation equipment and trained personnel should be available at the time of Lymphoseek administration, and patients observed for signs or symptoms of hypersensitivity following injection.

Any radiation-emitting product may increase the risk for cancer. Adhere to dose recommendations and ensure safe handling to minimize the risk for excessive radiation exposure to patients or health care workers. In clinical trials, no patients experienced serious adverse reactions and the most common adverse reactions were injection site irritation and/or pain (<1%).

FULL LYMPHOSEEK PRESCRIBING INFORMATION CAN BE FOUND AT: WWW.LYMPHOSEEK.COM.

About Navidea
Navidea Biopharmaceuticals, Inc. (NYSE MKT: NAVB) is a biopharmaceutical company focused on the development and commercialization of precision diagnostics, therapeutics and radiopharmaceutical agents. Navidea is developing multiple precision-targeted products and platforms including Manocept™ and NAV4694 to help identify the sites and pathways of

undetected disease and enable better diagnostic accuracy, clinical decision-making, targeted treatment and, ultimately, patient care. Lymphoseek® (technetium Tc 99m tilmanocept) injection, Navidea's first commercial product from the Manocept platform, was approved by the FDA in March 2013 and in Europe in November 2014. Navidea's strategy is to deliver superior growth and shareholder return by bringing to market novel radiopharmaceutical agents and therapeutics, and advancing the Company's pipeline through global partnering and commercialization efforts. For more information, please visit www.navidea.com.

The Private Securities Litigation Reform Act of 1995 (the Act) provides a safe harbor for forward-looking statements made by or on behalf of the Company. Statements in this news release, which relate to other than strictly historical facts, such as statements about the Company's plans and strategies, expectations for future financial performance, new and existing products and technologies, anticipated clinical and regulatory pathways, and markets for the Company's products are forward-looking statements within the meaning of the Act. The words "believe," "expect," "anticipate," "estimate," "project," and similar expressions identify forward-looking statements that speak only as of the date hereof. Investors are cautioned that such statements involve risks and uncertainties that could cause actual results to differ materially from historical or anticipated results due to many factors including, but not limited to, the Company's continuing operating losses, uncertainty of market acceptance of its products, reliance on third party manufacturers, accumulated deficit, future capital needs, uncertainty of capital funding, dependence on limited product line and distribution channels, competition, limited marketing and manufacturing experience, risks of development of new products, regulatory risks and other risks detailed in the Company's most recent Annual Report on Form 10-K and other Securities and Exchange Commission filings. The Company undertakes no obligation to publicly update or revise any forward-looking statements.

[1] Helmick CG, Felson DT, Lawrence RC, et al. Estimates of the prevalence of arthritis and other rheumatic conditions in the United States- Part I. Arthritis & Rheum. 2008: 58(1):15-25. Information available at http://www.rheumatology.org/ACR/about/newsroom/prevalence/prevalence-one.pdf

View source version on businesswire.com:
http://www.businesswire.com/news/home/20150729005400/en/

Navidea Biopharmaceuticals
Investors
Tom Baker, 617-532-0624
tbaker@navidea.com
Media
Sharon Correia, 978-655-2686
Associate Director, Corporate Communications

Source: Navidea Biopharmaceuticals, Inc.