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Navidea Biopharmaceuticals Announces Highlights of Lymphoseek® Data Presented at Joint International Oncology Congress (JIOC)

– Novel receptor-targeting binding mechanism and comparative performance of Lymphoseek in clinical setting featured in presentations –

DUBLIN, Ohio--(BUSINESS WIRE)-- Navidea Biopharmaceuticals, Inc. (NYSE MKT: NAVB), a biopharmaceutical company focused on precision diagnostic radiopharmaceuticals, today announced highlights of data from its Lymphoseek® (technetium Tc 99m tilmanocept) Injection studies in patients with breast cancer, melanoma and head and neck cancer that were presented at the recent Joint International Oncology Congress (JIOC), from May 27-29, 2013. Six studies were presented, featuring new technical insights on the unique binding mechanism of Lymphoseek and comparative performance characteristics of the product in the clinical setting.

“Data from a pilot study of Lymphoseek, taken together with the key benefits of the product that were highlighted at JIOC this week, further demonstrate how Lymphoseek is a promising precision diagnostic, delivering benefit for patients and physicians,” said Frederick O. Cope, Ph.D., Senior Vice President and Chief Scientific Officer at Navidea Biopharmaceuticals. “We believe that as physicians understand how Lymphoseek was purposely designed to function at the molecular level, that they will appreciate the utility that precision receptor targeting brings to the clinical setting for lymphatic mapping. We look forward to continued advances with Lymphoseek and providing additional results from future investigator-initiated studies as they become available.”

Three presentations detailed the mechanism through which tilmanocept selectively targets and tightly binds to receptors found in lymph nodes. Dr. Larry Schlesinger and colleagues described the CD206-specific binding properties of tilmanocept, noting that tilmanocept accumulation in tumor-positive sentinel lymph nodes in head and neck cancer was even greater than what was observed in tumor-negative sentinel nodes. Sentinel lymph nodes that were tumor-positive recruited significant numbers of dendritic cells compared to tumor-negative sentinel lymph nodes and non-sentinel lymph nodes, resulting in a 10-fold increase in tilmanocept uptake in tumor-positive nodes than in nodes that were tumor-negative.

Comparative clinical performance characteristics of tilmanocept against those of non-receptor targeted colloidal materials used in the United States and Europe were also highlighted at the Congress. Dr. Alice Chung and colleagues presented data from a meta-analysis of tilmanocept results and a comprehensive literature review of European practice in sentinel lymph node mapping. The data demonstrated a statistical performance difference

between tilmanocept and European colloidal materials in breast cancer patients. An initial pilot study conducted by Dr. Nathan Hall and colleagues examined the uptake and injection site clearance time of tilmanocept and 99m technetium sulfur colloid in breast cancer patients using dynamic SPECT/CT.

The Co-chairs of The Joint International Oncology Congress made a joint comment relating to presentations made at the Congress: “The international faculty and experts attending this year’s JIOC found the sessions on recent advances in targeted agents for lymphatic mapping and sentinel lymph node biopsy both educational and stimulating for scientific discussion. Attendees were interested to learn more about how tilmanocept functions at the molecular level and to be updated on its clinical performance. Part of our mission for JIOC is to help expand understanding and practices of clinical oncologists and to bring the clinical relevance of cancer metastasis to basic scientists, and sessions such as these help us meet that goal,” said Armando E. Giuliano, MD, FDACS, FRCSEd, President, International Sentinel Node Society and Executive Vice Chair of Surgery, Surgical Oncology, Department of Surgery and Associate Director, Surgical Oncology, Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai Medical Center in Los Angeles, CA; and Stanley P. L. Leong, MD, FACS, President, Sentinel Node Oncology Foundation and Head of Melanoma Surgery and Chief of Cutaneous Surgery at the California Pacific Medical Center and Research Institute in San Francisco.

Full content of all JIOC abstracts may be found at: http://www.sn-cancermets.org/docs/caa.pdf.

About Lymphoseek®

Lymphoseek® (technetium Tc 99m tilmanocept) Injection is a novel, receptor-targeted, small-molecule radiopharmaceutical used in lymphatic mapping procedures that are performed to help in the diagnostic evaluation of potential cancer spread for patients with breast cancer and melanoma. Lymphoseek is designed to identify the lymph nodes that drain from a primary tumor, which have the highest probability of harboring cancer. Lymphoseek was approved by the U.S. Food and Drug Administration in March, 2013 for use in lymphatic mapping to assist in the localization of lymph nodes draining a primary tumor in patients with breast cancer or melanoma. The Company anticipates continuing development of Lymphoseek into other solid tumor areas that may include head and neck cancers, prostate cancer, thyroid cancer, lung/bronchus cancers, colorectal cancer and others.

Accurate diagnostic evaluation of cancer is critical, as it guides therapy decisions and determines patient prognosis and risk of recurrence. According to the American Cancer Society, approximately 232,000 new cases of breast cancer, 77,000 new cases of melanoma and 67,000 new cases of head and neck/oral cancer are expected to be diagnosed in the United States in 2013.

Indication and Important Safety Information About Lymphoseek

Indication

Lymphoseek (technetium Tc 99m tilmanocept) Injection is a lymphatic mapping agent indicated for use with a hand-held gamma counter to assist in the localization of lymph

nodes draining a primary tumor site in patients with 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.

The most common adverse reactions are injection site irritation and/or pain (<1%).

FULL LYMPHOSEEK PRESCRIBING INFORMATION CAN BE FOUND AT:

WWW.LYMPHOSEEK.COM

About Navidea Biopharmaceuticals, Inc.

Navidea Biopharmaceuticals, Inc. (NYSE MKT: NAVB) is a biopharmaceutical company focused on the development and commercialization of precision diagnostics and radiopharmaceutical agents. Navidea is actively developing four radiopharmaceutical agent platforms – Lymphoseek®, NAV4694, NAV5001 and RIGScan™ – to help identify the sites and pathways of undetected disease and enable better diagnostic accuracy, clinical decision-making and, ultimately, patient care. Navidea's strategy is to deliver superior growth and shareholder return by bringing to market novel radiopharmaceutical agents and advancing the Company's pipeline through selective acquisitions, 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.

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