

August 1, 2022



Navidea Biopharmaceuticals Announces Publication of Study Examining Use of Tc99m Tilmanocept for Lymphatic Mapping and Sentinel Lymph Node Biopsy in Melanoma and Oral Cancer in Australia

DUBLIN, Ohio--(BUSINESS WIRE)-- Navidea Biopharmaceuticals, Inc. (NYSE American: NAVB) ("Navidea" or the "Company"), a company focused on the development of precision immunodiagnostic agents and immunotherapeutics, today announced the publication of a manuscript titled "Tilmanocept as a novel tracer for lymphatic mapping and sentinel lymph node biopsy in melanoma and oral cancer," based on work performed at the Crown Princess Mary Cancer Centre ("CPMCC") at the University of Sydney, in Sydney, Australia. The research, appearing in the *ANZ Journal of Surgery* (PMID: **35848587**), was led by Principal Investigator Dr. Muzib Abdul-Razak, MBBS, FRACS, FRCSE, MCh., of the Faculty of Medicine, Department of Surgical Oncology and Head and Neck Surgery in the CPMCC at the University of Sydney.

Sentinel lymph node biopsy ("SLNB") is widely accepted as an important clinical step in staging cutaneous melanoma ("CM") and is also a validated procedure to stage the neck in oral cavity squamous cell carcinoma ("OCSCC"). Despite this widespread acceptance, several different radiocolloids and dyes have been used, resulting in a non-standardized method of localizing and retrieving sentinel lymph nodes. Tc99m tilmanocept (approved as "Lymphoseek" in the US, EU, and the United Kingdom; "Lymphoaim" in India) was developed to overcome limitations of radiocolloids (lack of specific binding sites in the lymph nodes, for example, resulting in higher than desired false negative rates in some studies) and acts by selectively targeting and binding CD206 receptors on the surface of macrophages and dendritic cells. The use of Tc99m tilmanocept as a radiopharmaceutical for SLNB in CM and OCSCC has not been studied in Australia to date. This prospective study had as its aim the investigation of Tc99m tilmanocept use to evaluate its application, suitability, and reliability in an Australian setting.

A total of thirty-five patients were included in this study (N=26 with CM; N=9 with OCSCC). Lymphoscintigraphy with Tc99m tilmanocept identified at least 1 SLN (sensitivity of 100%) in all patients. There was a 100% intraoperative retrieval rate of SLNs in all patients, with positive nodes found in 20% of patients. Tc99m tilmanocept also demonstrated high tissue specificity (100%), with lymph nodal tissue confirmed histologically, with no false positives.

This is the first study to evaluate the use of Tc99m tilmanocept in the Australian setting, adding to a growing list of studies worldwide, and further supports that Tc99m tilmanocept is a reliable radiotracer for assessing the nodal status in patients with CM and OCSCC.

Dr. Michael Rosol, Chief Medical Officer for Navidea, said, “We are delighted to see the continued exploration of the utility of Lymphoseek for sentinel node biopsy in solid tumors. This study provides further support that Lymphoseek can provide high sensitivity and specificity for detection of sentinel nodes and supports our continued expansion of Lymphoseek outside of North America.”

Dr. Abdul-Razak said, “This first-of-its-kind study in the Australian setting provides additional evidence that Tc99m tilmanocept based lymphoscintigraphy is both a feasible and an accurate method for assessing nodal status in patients with CM and OSCC. Furthermore, our study adds to the growing body of literature supporting its use for these indications.”

About Navidea

Navidea Biopharmaceuticals, Inc. (NYSE American: NAVB) is a biopharmaceutical company focused on the development of precision immunodiagnostic agents and immunotherapeutics. Navidea is developing multiple precision-targeted products based on its Manocept platform to enhance patient care by identifying the sites and pathways of disease and enable better diagnostic accuracy, clinical decision-making, and targeted treatment. Navidea’s Manocept platform is predicated on the ability to specifically target the CD206 mannose receptor expressed on activated macrophages. The Manocept platform serves as the molecular backbone of Tc99m tilmanocept, the first product developed and commercialized by Navidea based on the platform. Navidea’s strategy is to deliver superior growth and shareholder return by bringing to market novel products and advancing the Company’s pipeline through global partnering and commercialization efforts. For more information, please visit www.navidea.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends affecting the financial condition of our business. Forward-looking statements include our expectations regarding pending litigation and other matters. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, among other things: our history of operating losses and uncertainty of future profitability; the final outcome of any pending litigation; our ability to successfully complete research and further development of our drug candidates; the timing, cost and uncertainty of obtaining regulatory approvals of our drug candidates; our ability to successfully commercialize our drug candidates; dependence on royalties and grant revenue; our ability to implement our growth strategy; anticipated trends in our business; our limited product line and distribution channels; advances in technologies and development of new competitive products; our ability to comply with the NYSE American continued listing standards; our ability to maintain effective internal control over financial reporting; the impact of the current coronavirus pandemic; and other risk factors detailed in our most recent Annual Report on Form 10-K and other SEC filings. You are urged to carefully review and consider the disclosures found in our SEC filings, which are available at <http://www.sec.gov> or at <http://ir.navidea.com>.

Investors are urged to consider statements that include the words “will,” “may,” “could,” “should,” “plan,” “continue,” “designed,” “goal,” “forecast,” “future,” “believe,” “intend,”

“expect,” “anticipate,” “estimate,” “project,” and similar expressions, as well as the negatives of those words or other comparable words, to be uncertain forward-looking statements.

You are cautioned not to place undue reliance on any forward-looking statements, any of which could turn out to be incorrect. We undertake no obligation to update publicly or revise any forward-looking statements, whether as a result of new information, future events or otherwise after the date of this report. In light of these risks and uncertainties, the forward-looking events and circumstances discussed in this report may not occur and actual results could differ materially from those anticipated or implied in the forward-looking statements.

View source version on businesswire.com:

<https://www.businesswire.com/news/home/20220801005761/en/>

Investor Relations Contact

Navidea Biopharmaceuticals, Inc.

Jeffrey Smith

Vice President of Operations

614-822-2365

jsmith@navidea.com

Source: Navidea Biopharmaceuticals, Inc.