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Macrophage Therapeutics to Present Data Supporting Potential for Breakthrough with Manocept™ in Immunotherapy

DUBLIN, Ohio--(BUSINESS WIRE)-- Macrophage Therapeutics, a newly created business unit of Navidea Biopharmaceuticals, Inc. (NYSE MKT: NAVB), is pleased to present at a conference data generated by independent academic collaborators that it believes represent a pathway to a potential major scientific breakthrough in disease therapy, and more specifically, immunotherapy. Data will be presented to members of the scientific and investment communities both live in New York City and via webinar (details below).

Data will be presented that demonstrates that the Manocept™ backbone of tilmanocept, a component of an FDA-approved diagnostic agent, when attached to selected active therapeutic agents, can modulate over-active macrophages in clinically meaningful ways. To date, immunotherapy targeting the innate immune system has been limited to selectively blocking certain of the chemokines and cytokines produced by over-active macrophages. As a result of the high affinity of the Manocept platform compounds to CD206, which is only found in activated macrophage stages, one can now target the cell directly and modulate all of the activities of the overactive cell. This breakthrough has potential implications for radically new approaches to treatment in a broad array of diseases including infectious diseases, cancer, cardiovascular, autoimmune and central nervous system diseases.

Presenting at the webinar will be Frederick O. Cope, Ph.D., who will provide the technology overview covering the basic aspects of tilmanocept interactions with macrophages. Dr. Cope will also present data on the tuberculosis/macrophage relationships and the tilmanocept/CD206 relationship in the pathology of tuberculosis, as well as findings in rheumatoid arthritis. These studies have been generated in collaboration with researchers at The Ohio State University.

In the area of Kaposi's sarcoma (KS), Michael McGrath, M.D., Ph.D., Professor, University of California, San Francisco, School of Medicine, will cover work done with tilmanocept in KS, HIV, and HVC.

Lastly, Steven Grinspoon, M.D., Professor of Medicine at Harvard Medical School, will discuss the ongoing work with vulnerable plaque and atherosclerosis and the role of CD206, macrophages and tilmanocept's potential interactions in this pathology.

"We are humbled to be entrusted with this scientific breakthrough that has the potential to help so many patients. Our priority is to develop additional data in order to advance products utilizing this technology into clinical testing and then to the market. We are fortunate that we already have an FDA-approved indication with this technology as a diagnostic. As a result, we believe we have addressed many of the key commercialization issues for the technology

and can now focus on the individual therapeutic applications. We are in the process of creating a Scientific Advisory Board of leading macrophage-focused immunologists as well as therapeutic area experts to assist us in prioritization within major disease categories," said Navidea director Michael M. Goldberg, M.D., who is leading Navidea's Macrophage Therapeutics efforts.

The conference and webinar will be held at 10:00 am (EST) this coming Monday, December 15th, at 109 West 39th Street, New York, NY 10019.

The conference will also be available streaming online via webinar at: <https://www3.gotomeeting.com/register/264506806>, or by dialing Toll-free: 1 866 952 8437, Access Code: 622 843 441

About Macrophage Therapeutics

Macrophage Therapeutics, a newly created business unit of Navidea Biopharmaceuticals, Inc., is developing new therapeutics based on its proprietary CD206 targeting technology platform. This will represent a new paradigm in the treatment of disease. Depending on the active agent(s) attached to the Manocept™ backbone as well as other core molecule permutations, it may be possible to approach immunotherapy in a completely novel manner. This approach has the potential to provide for management and modification of diseases that include the immediate involvement of macrophages, the biological products of macrophages, or the effective impact of macrophages or their progenitor and/or daughter elements. Thus, Macrophage Therapeutics' Manocept platform is designed to specifically address a key element, macrophage interactions, in the natural progression of clinically significant diseases that impact the lives of patients around the globe.

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. 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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