

## Macrophage Therapeutics to Expand Efforts Into CNS Diseases

- Initiative based on data that targeted delivery technology crosses blood brain barrier -

DUBLIN, Ohio--(BUSINESS WIRE)-- Macrophage Therapeutics, Inc., a subsidiary of Navidea Biopharmaceuticals, Inc. (NYSE MKT: NAVB), today announced that data from an ongoing human study indicates that Navidea's Manocept™ technology platform has the ability to safely cross the blood brain barrier without losing its ability to deliver its payload to the intended target. Based on this data and on the advice of the Company's newly formed Scientific Advisory Board (SAB), Macrophage Therapeutics will expand the SAB to include members with specific expertise in central nervous system diseases.

The blood brain barrier has proven to be a significant obstacle to treating many diseases of the central nervous system. In an imaging study using the Manocept targeted delivery system, lesions on the other side of the blood brain barrier were observed. Many of the leading diseases of the central nervous system such as Alzheimer's and Parkinson's diseases as well as autoimmune CNS diseases such as Multiple Sclerosis and ALS have pathologies that can in part be attributed to over active macrophages, the target for Manocept delivery technology.

"We are encouraged by the early, albeit limited, data that suggests that Manocept technology traverses the blood brain barrier, opening the potential to create groundbreaking therapies in areas such as Alzheimer's, Parkinson's, ALS, and other diseases that have been difficult to treat. We believe ultimately the safest and most effective way to treat chronic diseases, such as Alzheimer's, will be through targeted delivery," said Michael Goldberg, M.D., CEO of Macrophage Therapeutics. "We look forward to working with our soon to be expanded scientific advisory board to further characterize our technology's capabilities in the broad CNS disease category."

## **About Macrophage Therapeutics**

Macrophage Therapeutics, a newly created subsidiary of Navidea Biopharmaceuticals, Inc. (NAVB), is developing therapeutics using the patented Manocept immunotherapy platform licensed from Navidea to target over-active macrophages implicated in cancer, cardiovascular, central nervous system, autoimmune, antiviral, and skin diseases. Manocept specifically targets CD206, or mannose receptor prevalent on over-active macrophages. The technology enables highly specific targeted delivery of active (either existing or yet to be developed) agents that can modulate the activity of over-active macrophages that have been implicated in many diseases. Targeted delivery should significantly enhance a given compound's efficacy and safety.

## About Navidea Biopharmaceuticals Inc.

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™, NAV4694, and NAV5001, 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<sup>®</sup> (technetium Tc 99m tilmanocept) injection, Navidea's first commercial product from the Manocept platform, was approved by the FDA in March 2013 and by the EMA 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.

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