

REDUCING THE TIME AND COST OF SCIENTIFIC TRIALS

NanoMedTrix develops novel multi-modal, targeted contrast agents for use across a range of disciplines, including regenerative technology and targeted radiology in medical imaging. Contrast agents are used to enhance the visibility of structures or fluids in the body during scans, such as MRI, CT and Ultrasound. While there are many contrast agents available on the market, ours are unique for 4 important reasons:

- ❖ They are multi-modal, meaning that a single dose will be effective across 2 or more scanning types, increasing efficiency and decreasing waste where more than 1 type of scan is required;
- ❖ They are multi-scale, working at the cellular, tissue and organ level;
- ❖ They are targeted, capable of flagging a particular pathology or tissue type, as opposed to other contrast agents that are more general and act throughout the whole body. This capability means that our contrast agents have the potential to revolutionize disease detection through non-invasive diagnostic procedures.
- ❖ They have the potential for therapeutic interventions, for example by acting as a means of targeted drug delivery.

OUR PRODUCTS

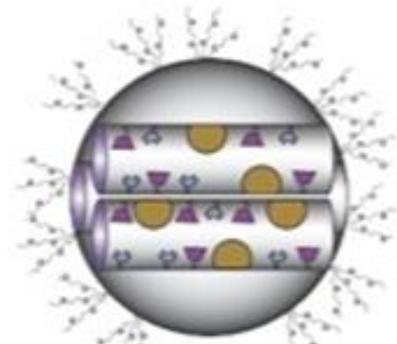
The particles at the core of the NanoMedTrix contrast agents are made of either mesoporous silica (MSN) or doped lanthanides.

MSN Particles: Price \$100/2 mg vial

- 100-200 nm in diameter, 5 nm pores
- Loaded with drugs or fluorophores for controlled release
- Capped with a metal/metal oxide nanoparticle
- Functionalized with various molecules for specific applications

Lanthanide Particles: Price \$100/2 mg vial

- 30 nm core diameter; 50 nm hydrodynamic diameter
- Excitation/emission wavelengths are 350/625 nm
- Unlike organic fluorophores, don't photobleach
- More biocompatible than quantum dots and non-blinking
- Functionalized with various molecules



THE SCIENCE

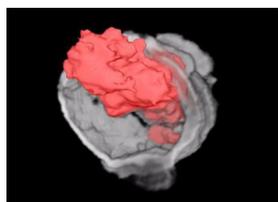
We provide an invaluable set of patent-pending multi-scale tools for research into early detection and treatment of diseases, with the goal of achieving greater cost effectiveness in medical care through early, accurate and rapid diagnosis followed by successful interventions. Specifics of our science include sequential detection/quantification:

Fluorescence



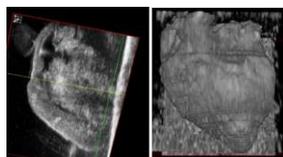
Mesenchymal stem cell labeled with MSN particles confocal microscopy fluorescent labeling

Magnetic Resonance Imaging (MRI)



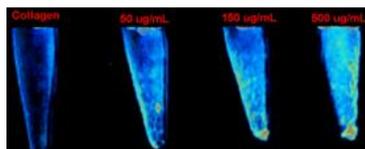
3-dimensional MRI “virtual cystoscopy” of a mouse bladder (gray) containing a tumor (red) labeled with NanoMedTrix MSN particles. The particles improve the definition of the tumor boundaries and even show tumor growth within the bladder wall, important for tumor grading.

Echographic Ultrasound



Echo of injected heart and 3D imaging. Rapid image guiding information.

Life Science: Quantitative Measurements



Characterization of lanthanide contrast agents using MRI phantoms containing the indicated concentrations of material.

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ABOUT US

Company History

NanoMedTrix was formed in August of 2012 as a spinoff of decades of innovative biomedical research in nanomaterial and regenerative medicine. Recently, this scientific technology culminated into the creation of a commercial entity for the fostering a strategy to deploy nanoparticles product to the biomedical community.

Management Team

Joe Assouline, PhD. Is the founding member and Chief Science Officer of NanoMedTrix, LLC. Dr. Assouline has held various academic positions in Medicine and Engineering at the University of Iowa. Dr. Assouline’s main research focus has been to develop novel target molecules and bioactive markers. Starting during his tenure at the National Institutes of Health (Bethesda, MD), he began his quest for a reliable marker technology which will serve simultaneously as a diagnostic tool and therapeutic alternative. This led to a number of innovation designs which culminated in the development of a series of nano-scale multifunctional particles with applications in biotechnology and medicine.

Dr. Sean Sweeney, Ph.D. Director of Engineering and Manufacturing. Sean has received strong training in all research interests of NanoMedTrix. He has hands-on experience in various types of nanomaterials and has applied this technology in a number of biomedical applications. He has participated and managed teams of scientists in the development and experimental designs for labeling and imaging contrast enhancement as well as a broad spectrum of biomedical engineering.

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