COLLABORATIONS AND PARTNERSHIPS

We owe our progress and success to date in part to the close working relationship we enjoy with both the State of Iowa and the University of Iowa. Aside from generous funding, we have also benefitted from the business and technical expertise of many affiliated with the State and the University. We enjoy successful collaborative relationships with medical researchers within the University of Iowa Hospitals and Clinics and the University's Carver College of Medicine (specifically, we are working with medical researchers in Pathology, Gastroenterology and Urology on the early detection of liver, colorectal and bladder cancers respectively). As noted above, we have recently achieved another significant milestone in acquiring wet lab space at the BioVentures Center, which gives us the required space for commercial production of our contrast agents.

NEXT STEPS

Preparatory to commercialization, the company has developed a sophisticated strategy to characterize the particles which make up our contrast agents, allowing us to evaluate purity and ensure non-toxicity. A prerequisite to commercial production is the setting up of a rigorous quality control system, towards which we are working. We are also working to expand our team, and are seeking out a CEO with the requisite knowledge, expertise and experience.

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CONTACT US!

NanoMedTrix, LLC

2500 Crosspark Road Suite E119

Coralville, IA 52241

Phone (319) 335-4676

Alternate phone (319) 541-2036

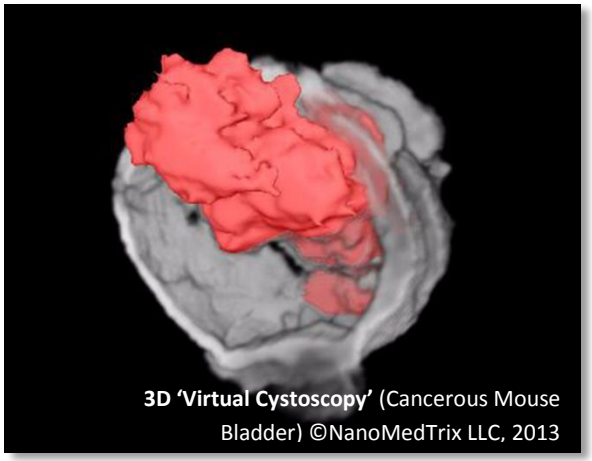
Email joeassouline@nanomedtrix.com

or nmtx.corporate@nanomedtrix.com

Visit us on the web at nanomedtrix.com

NanoMedTrix, LLC

Small Particles, Large Contrast



3D 'Virtual Cystoscopy' (Cancerous Mouse Bladder) ©NanoMedTrix LLC, 2013

WHAT WE DO

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.

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.

PRODUCTS

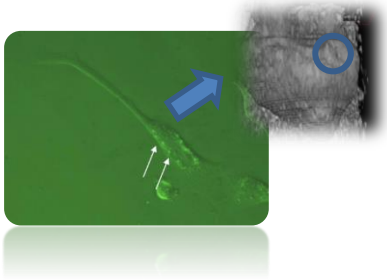
The particles at the core of the NanoMedTrix contrast agents are made of either mesoporous silica (MSN) or doped lanthanides. Our patent-pending intellectual property exists in the various combinations of functionalization we apply to the cores and the resulting applications in medical imaging.

MSN Particles:

- 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

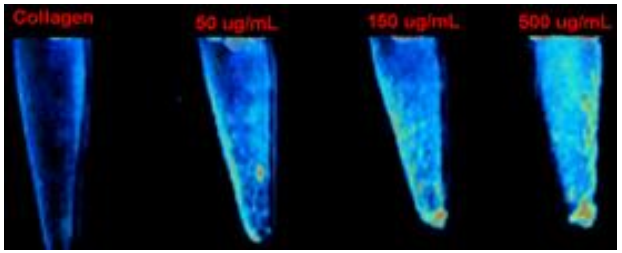
Lanthanide Particles:

- 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



COMMERCIAL VIABILITY

We provide an invaluable set of 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. Significantly, we will be able to offer our novel contrast agents at a competitive price point in relation to the contrast agents currently on the market whilst retaining high margins.



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

Human mesenchymal stem cell labeled with MSN particles (left), and 3-D *ex-vivo* ultrasound of a mouse heart (right), injected with 150,000 labeled stem cells.