

Fetzer Institute Supports Use of New Technology to Fight Disease

CytoViva Reveals Distinction Between Calcifying Nanoparticles and Inorganic Crystal

AUBURN, AL (Feb. 09, 2007) - Research is finding evidence that may solve one of the great puzzles of 21st Century medicine using a new microscopy technology known as CytoViva.

Researchers at Mayo Clinic successfully isolated nanoparticles from human kidney stones and calcified aortas. The findings, which appear in the *Journal of Investigative Medicine*, are significant because they move researchers a step closer to understanding whether nanoparticles can contribute to the pathogenesis of a variety of diseases. Recently, for the first time the Mayo Clinic investigators visualized their nanoparticle isolates in real-time using CytoViva.

In November, a team of scientists at Nanobac Pharmaceuticals utilizing CytoViva released the first-ever live video footage of calcifying nanoparticles. Calcification occurs in many diseases listed on the leading-cause-of-death list such as cardiovascular and kidney disease. Calcification is also linked to chronic inflammation in atherosclerosis and end-stage renal disease, but it is unclear how this occurs. Nanoparticle calcification is being studied because it is believed to play a basic role in calcifying diseases ranging from heart disease to kidney stones to prostate disease.

“We used a new, very high definition microscope system,” explained Dr. Neva Ciftcioglu, Science Director of Nanobac Pharmaceuticals, which produced the video. “Before these technologies were created recently, we had to chemically treat the nanoparticles to see below the 200 nanometer threshold, which kept us from observing live processes.”

The new video was first unveiled at a recent invitation-only Auburn University conference of leading microscopy and biomedical scientists, organized by the Fetzer Memorial Trust. Fetzer specializes in supporting leading-edge medical technologies and has been collaborating with Nanobac Pharmaceuticals on this project since early 2006.

CytoViva, which won an R&D 100 award last year, is a new product combining fluorescence and high resolution optical imaging to create a new, unparalleled level of microscopy performance. The unique system allows researchers to view both fluorescent and non-fluorescent sample structure simultaneously, in real time and at high resolution.

Auburn, AL-based, CytoViva, Inc., is a subsidiary of Aetos Technologies, Inc., a privately held technology development company founded to bridge the gap between university-based research and the commercial market.

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