

Fresh Pot of Tea Strikes Anticancer Gold

April 27 2009

(PhysOrg.com) -- Researchers from the University of Missouri-Columbia report in the *Journal of Materials Chemistry* that chemicals in tea are the best yet discovered to make consistent, biologically safe gold nanoparticles. More importantly, these gold nanoparticles show promising anticancer properties.

The research team, headed by Kattesh V. Katti, Ph.D., M.Sc.Ed., principal investigator of the National [Cancer](#) Institute-funded Hybrid Nanoparticles in Imaging and Therapy of Prostate Cancer Platform Partnership, literally brewed a fresh pot of Darjeeling tea and added gold salts, which get reduced by phytochemicals already known for their health benefits. Coincidentally, the tea chemicals that regulate the size of these nanoparticles also increase their likelihood of being taken into breast and [prostate cancer cells](#), improving their potential as targeted anticancer drugs. The nanoparticles are also highly stable in biological fluids.

Dr. Katti says that discovering tea's nontoxic formation of nanoparticles is of paramount importance for medical and technological applications. He explains that gold nanoparticles have many potential medicinal and technological uses, such as targeted [anticancer drugs](#), but currently their synthesis needs toxic reagents that make them unsuitable for use in the body. The natural chemicals used in this new method are harmless in the body, and the reaction produces no toxic byproducts, only some slightly unusual tasting cold tea.

This work, which was detailed in the paper "Green nanotechnology from

tea: Phytochemicals in [tea](#) as building blocks for production of biocompatible gold nanoparticles,” was supported by the NCI Alliance for Nanotechnology in Cancer, a comprehensive initiative designed to accelerate the application of nanotechnology to the prevention, diagnosis, and treatment of cancer. An abstract is available at the [journal's Web site](#).

Provided by National Cancer Institute ([news](#) : [web](#))

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