Monolayer protected gold clusters

A versatile range of gold nanoparticles available for custom conjugation

Project AuTEK, based at Mintek in South Africa, has developed a range of gold nanoparticles for biological and pharmaceutical applications. These monolayer protected clusters of gold (Au MPCs) are water soluble and extremely stable under conditions likely to be encountered in physiological environment (i.e. at very high salt concentration and different buffer media and at varied pH range). AuTEK's materials are also biocompatible, eliminating non-specific interaction with biological molecules and making them ideal for targeted drug delivery application.

The gold MPCs can contain specific functional groups of interest on their surfaces including carboxyl, azide, hydroxyl, Nitrilotriacetic acid and biotin etc, which are controllable to meet customer requirements. The hydrophobic materials are obtainable in different solvents. High purity and monodispersed Au MPCs of specific size (ranging from 2-100 nm) are well characterised by various optical and microscopic techniques. Available from AuTEK, these products have a long shelf life and can be dried and centrifuged without compromising the quality of the materials.

For the development of point-of-care tests, AuTEK also offers versatile Au MPCs biconjugates containing a biomolecular functionality of choice such as streptavidin, enzymes, antibodies, DNA, sugars and peptides. Custom conjugation of Au MPCs containing other functional groups of interest can be obtained on request.

To order or find out more information please visit our website at: www.autek.org

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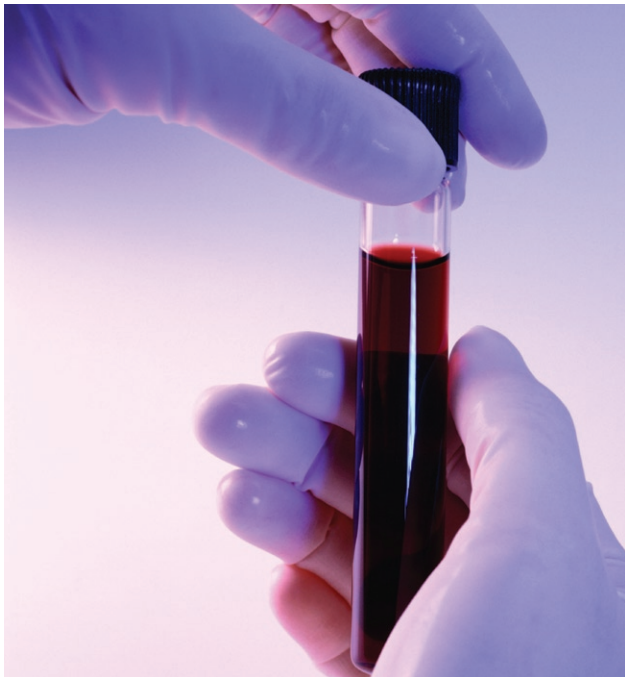
PROJECT AuTEK



Gold nanoparticles in a polymer matrix for memory devices

Project AuTEK has also developed a wide variety of hybrid nanomaterials, based on gold nanoparticles (2-5 nm) within semiconducting polymers, for organic memory device applications. The diameters of the fibre shaped composite materials range from 40-100 nm. The composite materials are well characterized by optical (UV-vis, FTIR and Raman) and microscopic (TEM, SEM and SPM) techniques. Research groups with an interest in collaboration are invited to make contact.