Molecular Surface Modified Spherical Gold Nanoparticles-11AT
PRODUCT DATA SHEET

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Description

Gold nanoparticles (GNPs) have enhanced optoelectronic properties compared to those of their bulk counterpart that can be easily tuned by self-organizing these nanoparticles in a particular fashion. For the past few decades, extensive research has been carried out on the selfassembly of GNPs into one-dimensional (1D), two-dimensional (2D), and three-dimensional (3D) nanostructured materials using various interactions. For example, electrostatic, covalent, and van der Waals forces have mostly been utilized to prepare such nanostructured materials with various architectures. The unique properties of gold nanoparticles, their rich surface chemistry, and low toxicity as well as easy methods of synthesis have promoted conjugation of the particles with numerous biomolecules (such as DNA, proteins, and peptides) for site-specific delivery.

Abvigen can provide Self Assembled Monolayer, Alkane Thiol Functionalized Gold Nanoparticles functionalized with Self Assembled Monolayers (SAMs), or otherwise know as alkanethiols or molecular surface modifiers (MSMs). The thiol molecules adsorb readily from solution onto gold, creating a dense monolayer with the tail chain pointing outwards from the surface. By using thiol molecules with different tail chains, the resulting chemical surface functionality can be varied within wide limits. It is also possible to functionalize the tail chains chemically by performing reactions after the SAMs are formed. Due to the strong bond between gold and sulfur, the adsorption of alkylthiols on gold has become one of the most extensively studied systems in the field of self-assembled monolayers. With proper environments, SAM densities of over 5/nm^2 can be achieved resulting in very stable gold nanoparticle products. These molecular surface modified gold nanoparticles can be used in a multitude of applications, including diagnostics, imaging, particularly in adverse environments. These particles are guaranteed not to aggregate. The product has high repeatability between batches, which can meet the needs of various customers for personalized materials such as research and development, testing, and production.

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Tel: 1-816-388- 0112 Fax: 1- 888-616-0161

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: www.abvigen.com Phone: +1 929-202-3014 Email: info@abvigenus.com

Characteristics

Type: Molecular Surface Modified Spherical Gold Nanoparticles-11AT

Diameter: 1.8 nm ~ 1500 nm

SAM Ligand: -11AT (11-Azido-1-undecanethiol)

Solvent: ETOH

Concentration: OD=50

Size: 0.25 mL

Storage condition: Storage at 4°C. Do not freeze.

Shelf life: 3 months

Advantages

High density conjugations and purifications

No sodium azide

No BSA

Well Characterized

Customer can select buffer

Customer can select gold nanoparticle type, size and/or SPR

Loading of all ligands is optimized

Applications

Biosensors

Diagnostics

Imaging

Drug delivery

Toxicity

The product toxicity is based on the solvent chosen.

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Storage

This product is guaranteed for three months and should be stored at 4°C after opening. Care must be taken to only use sterile glassware when working with this product. Please note the SAM functionalized gold nanoparticles are manufactured to the customer request. The stability is based on the combination of the SAM ligand and the gold nanoparticle size. Because we don't have any ability to change this (i.e. adding other ligands, buffers, etc.), the stability is based on that combination. The product delivered is the SAM functionalized gold nanoparticle. The UV VIS may change due to that combinational stability, but it is the product ordered. We do not spec the UV VIS as part of that product. Please contact us if you need more information about your specific needs.

Handling

Some of our products may reversibly aggregate and settle with time in storage. In these cases, these particles may be resuspended by sonication for five minutes, followed by a two minute vortex.

In shipping, sometimes particles get lodged in the cap of the microcentrifuge container. A quick and easy solution is to put the tube on a vortex mixer for 3-5 s. Then centrifuge at less than < 1000 revs/min for 30 s. This should recollect any particles back into the bulk reservoir.

Product Use

Customer confirms that the products ordered will only be used by trained personnel in laboratories equipped for this purpose and are NOT PURCHASED FOR PERSONAL USE. Furthermore the products ordered will only be employed for Research Purposes or for In Vitro Diagnostic Use in case the products have been certified for this purpose. The user is acquainted with the use of these products and is aware of relevant regulations.

Ordering Information

Website: www.abvigen.com

Phone: +1 929-202-3014

Email: info@abvigenus.com