Gold Nanoparticles-DBCO
PRODUCT DATA SHEET

Gold Nanoparticles-DBCO

Description

Gold nanoparticles are widely used nanomaterials and generally referred to as colloidal gold in biological research. Colloidal gold markers generally has a particle size between 10 and 100 nm, and will show different colors with the change of particle size. Gold nanoparticles have excellent biocompatibility, rich surface modification properties, and unique optical properties related to the surfactant, shape, size, and structure of the nanoparticles. According to their different characteristics, it can be applied to various fields of biomedicine, such as medical testing, medical imaging, drug delivery, etc.

Dibenzocyclooctyne (DBCO) functionalized gold nanoparticles are suitable for covalent conjugation of any azide-tagged molecule through click chemistry. The rigid structure of the DBCO allows for quick reactions under more moderate conditions, and eliminates the need for a copper catalyst. This chemistry confers higher stability in aqueous conditions and the lack of copper greatly increases its overall biocompatibility, enabling a multitude of biological applications. Our DBCO functionalized gold nanoparticles are available in 9 different sizes ranging from 20 ~ 100 nm, are more than 95% spherical and have uniform size distribution (CV < 12%).

Abvigen provides a variety of gold nanoparticles, gold nanorods, gold nanocages, gold nanostars, gold nanobipyramids, and other products, the product particle size is optional, the concentration can be customized, the surface can be modified with different groups, and can be appropriately selected according to the customer's use.

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

Composition: Gold Nanoparticles-DBCO

Shape: Spherical

Core diameter: 20 ~ 100 nm

Size dispersity: Coefficient of Variance (CV) < 12%

1378 US-206 Ste 6-126, Skillman, NJ USA
Email: info@abvigenus.com
Tel: 1-816-388- 0112 Fax: 1- 888-616-0161

Polydispersity index (PDI): < 0.200

Size: 1 mL

Amount: OD = 50

Surface: DBCO

Absorbance (λmax): 520 ~ 570 nm

DBCO surface density: 1/nm^2

Buffer: DI Water

Form: Suspension

Supplied in H_2O

Advantages

Superior size distribution compared to the leading competitor; available from 20 nm to 100 nm.

Precisely engineered surface with an optimized DBCO density.

No copper catalyst required

Greater biocompatibility

Application

Ideal for development of gold conjugates for use in applications such as blotting, lateral flow assays, light microscopy, and transmission electron microscopy (TEM) among others.

Storage

This product should be stored at 4°C. **DO NOT FREEZE.** If stored as specified, Abvigen Gold Nanoparticles-DBCO are stable for at least 12 months.

Handling

When stored for a long period of time gold nanoparticles may sediment at the bottom of the vial, which is especially prominent for larger particle sizes. Prior to use, re-suspend the sedimented particles by thorough mixing until a homogenous solution is obtained.

Note

These products are for R&D use only, not for drug, household, or other uses.

1378 US-206 Ste 6-126, Skillman, NJ USA
Email: info@abvigenus.com
Tel: 1-816-388- 0112 Fax: 1- 888-616-0161

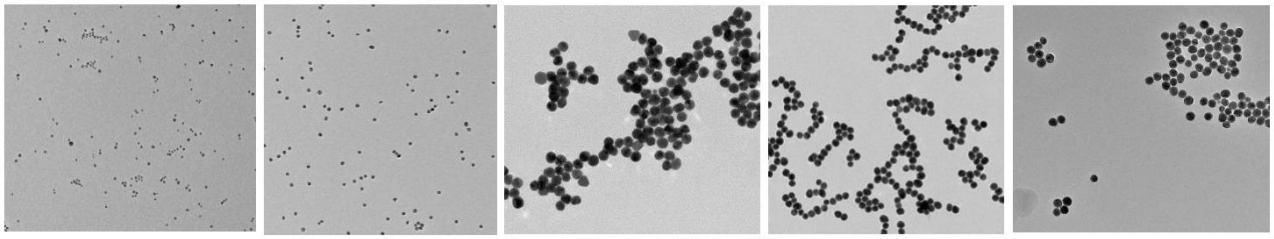
NPS of Gold Nanoparticles, OD 50

Diameter	Peak SPR Wavelength	Optical density	Wt. conc	Size Dispersity %PDI	Particles/ml	Molarity mol/ml
20 nm	524 nm	OD 50	2.5 mg/ml	< 10%	3.09E+13	5.13E-11
30 nm	526 nm	OD 50	2.5 mg/ml	< 6%	9.15E+12	1.52E-11
40 nm	530 nm	OD 50	2.5 mg/ml	< 4%	3.86E+12	6.41E-12
50 nm	535 nm	OD 50	2.5 mg/ml	< 4%	1.98E+12	3.28E-12
60 nm	540 nm	OD 50	2.5 mg/ml	< 4%	1.14E+12	1.90E-12
70 nm	548 nm	OD 50	2.5 mg/ml	< 4%	7.21E+11	1.20E-12
80 nm	553 nm	OD 50	2.5 mg/ml	< 4%	4.83E+11	8.02E-13
90 nm	564 nm	OD 50	2.5 mg/ml	< 4%	3.39E+11	5.63E-13
100 nm	572 nm	OD 50	2.5 mg/ml	< 4%	2.47E+11	4.10E-13

Gold Nanoparticles Centrifugation Parameters

Particle Size	Speed (g)	Time (min)
20 nm	6500	30
30 nm	4500	30
40 nm	2500	30
50 nm	2000	30
60 nm	1125	30
80 nm	400	30
100 nm	400	30

TEM of Abvigen gold nanoparticles of different size



5 nm 10 nm 20 nm 30 nm 40 nm

Ordering Information

Website: www.abvigen.com

Phone: +1 929-202-3014

Email: info@abvigenus.com

1378 US-206 Ste 6-126, Skillman, NJ USA
Email: info@abvigenus.com
Tel: 1-816-388- 0112 Fax: 1- 888-616-0161