Gold Nanoparticles-Biotin
PRODUCT DATA SHEET

Gold Nanoparticles-Biotin

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.

Abvigen biotin functionalized gold nanoparticles are available with diameters in the range of 5 nm ~ 100 nm. These particles have a precisely engineered surface for optimal streptavidin binding while minimizing non-specific binding to other proteins present in your sample. The gold nanoparticle label allows for convenient binding and detection of streptavidin in applications such as TEM, ELISA and Immuno dot-blots among others.

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-Biotin

Shape: Spherical

Core diameter: 5 ~ 100 nm

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

Polydispersity index (PDI): < 0.150

Size: 0.5 mL; 1 mL

1378 US-206 Ste 6-126, Skillman, NJ USA
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Amount: OD = 50

Surface: Biotin

Absorbance (λmax): 510 ~ 570 nm

Nr of biotin groups on surface: ~ 0.5/nm^2

Buffer: DI Water

Form: Suspension

Supplied in USP Grade H_2O

Advantages

Monodisperse

Well defined sizes from 5 nm to 100 nm

Precisely engineered surface with an optimized biotin group density for easy conjugation

Extensive range of surface functionalities designed for in vitro and in vivo applications

Application

Ideal for development of gold conjugates for use in applications such as blotting, lateral flow assays, LSPR 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-Biotin 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 true for larger particle sizes. Prior to use, re-suspend the sedimented particles by swirling until a homogenous solution is obtained.

Note

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

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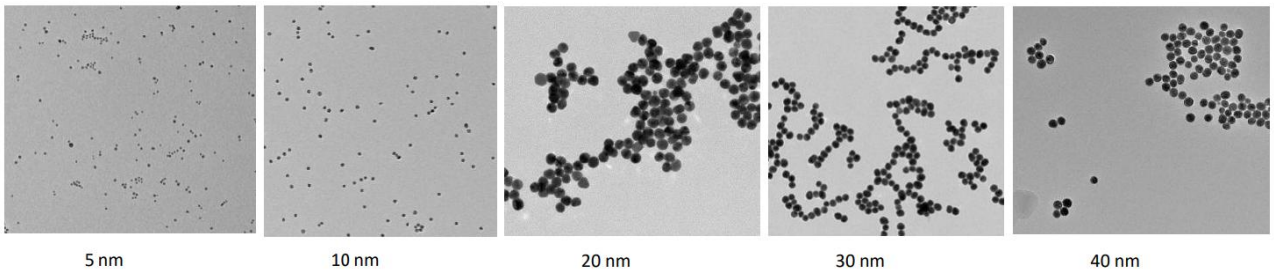
NPS of Gold Nanoparticles, OD 50

Diameter	Peak SPR Wavelength	Optical density	Wt. conc	Size Dispersity %PDI	Particles/ml	Molarity mol/ml
5 nm	515-520 nm	OD 50	2.5 mg/ml	< 20%	1.98E+15	3.28E-09
10 nm	520 nm	OD 50	2.5 mg/ml	< 15%	2.47E+14	4.10E-10
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)
5 nm	100000	30
10 nm	17000	60 (~ 50% recovery)
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

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Ordering Information

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