Gold Nanoparticle Conjugation Kit - TEM
PRODUCT DATA SHEET

Gold Nanoparticle Conjugation Kit - TEM

Cat No: AKIT-TEM

Description

Abvigen Non-Functionalized Reactant Free Gold Nanoparticles have been optimized for, cellular studies and high protein binding efficiency.

Our gold nanoparticles are available in 17 different sizes ranging from 5 ~ 400 nm, are more than 95% spherical and have uniform size distribution (CV < 12%).

Characteristics

Core diameter: 5 ~ 400 nm (Coefficient of Variance < 12%)

Polydispersity Index (PDI): < 0.20

Concentration: OD=1 (~ 0.05 mg/ml)

Absorbance (λmax): 510 ~ 570 nm

Supplied in 0.1 mM Phosphate-Buffered Saline (0.01X PBS)

Advantages

Superior size distribution; available from 5 nm to 400 nm.

Exceptional protein binding characteristics.

Our reactant free gold nanoparticles are ideal for sensitive applications requiring a minimum amount of contaminating reactants remaining from the manufacturing process. (Purity > 99%).

Also available with multiple surface functionalities to suit all your needs.

Applications

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

Ideal for cellular and cellular toxicity studies.

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Storage

This product should be stored at 4°C. DO NOT FREEZE. If stored unopened and as specified, Abvigen gold nanoparticles are stable for at least 6 months.

Handling

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

To maintain optimal performance, and stability of the colloidal gold, care should be taken to use clean storage containers if using other than supplied with the product.

Washing Gold Nanoparticles

Although it is not generally necessary to wash the gold nanoparticles prior to use, some applications may require additional washing procedures. The easiest way to remove possible contaminants in the nanoparticles solution is by centrifugation. Centrifugation force is dependent on size of the gold nanoparticles and should be adjusted according to Table I for optimal performance.

Note I: Since non-functionalized gold nanoparticles are sensitive to salt containing buffers, re-suspension should always be performed in ultra-pure water to prevent irreversible aggregation. Irreversible aggregation is characterized by a clear to bluish solution upon the addition of salt.

Note II: Please note that centrifugation can induce aggregation. To prevent aggregation, it may be necessary to add Tween 20 at a concentration of 0.025% w/v.

Procedure

1. Place 1 ml aliquot of colloidal gold in a 1.5 ml micro centrifuge tube.
2. Centrifuge the gold nanoparticles for 30 min using the appropriate G force determined by referencing Table I.
3. Remove the supernatant and re-suspend in an appropriate volume of ultra-pure water.
4. Vortex to re-disperse the particle

Product Safety

This product is for R&D use only, not for drug, household, or other uses.

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Table I. Appropriate G forces for centrifugation of gold nanoparticles. Note that recommended conditions are for a volume of 1 ml and centrifugation using a microcentrifuge, except for 5 nm gold nanoparticles that requires an ultracentrifuge.

Size (nm)	Speed (g)	Time (min)
5	100,000	30
10	17,000	60 (~ 50% recovery)
15	17,000	30
20	6,500	30
30	4,500	30
40	2,500	30
50	2,000	30
60	1,125	30
80	600	30
100	400	30
150	180	30
200	100	30

Ordering Information

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