

NITgold Cit 40nm

#510014 & #510015

STORE AT 4°C away from light. DO NOT FREEZE

Description

The 40nm gold nanoparticles are uniform quasi-spherical gold nanoparticles with a mean diameter of forty nanometers capped with citrate. These nanoparticles present unique physico-chemical properties (i.e. optical, catalytic, electrochemical activity, etc.). Citrate gold nanoparticles are excellent candidates to be functionalized since a wide range of molecules can be tethered onto the AuNP surface by means of a thiol (SH) group displacing adsorbed citrate anions. Once functionalized, they can be employed as platforms for many applications such as target-specific drug delivery, sensors, lateral flow tests, imaging probes for dark-field microscopy, flow cytometry, cancer photothermal therapy, catalysis, and optoelectronic. They can be also conjugated with distinct molecules and/or other micro/nanostructures to generate new biosensors, therapeutics, etc. The optical and electronic properties of gold nanoparticles are tuneable by changing their size, shape, surface chemistry or even their aggregation state.

Technical Specifications

Particle Surface: Citrate capping

Peak SPR wavelength: 533 nm

Average Diameter:¹ 37.7 ± 4.5 nm

Hydrodynamic Diameter (DLS)^{Z-average}: 41.1 nm

Molar Concentration:² 0.11 nM

O.D.: 1

Particle Concentration: 6.6×10¹⁰ particles/mL

Z-Potential: -46.2 mV

Solvent: Milli-Q Water

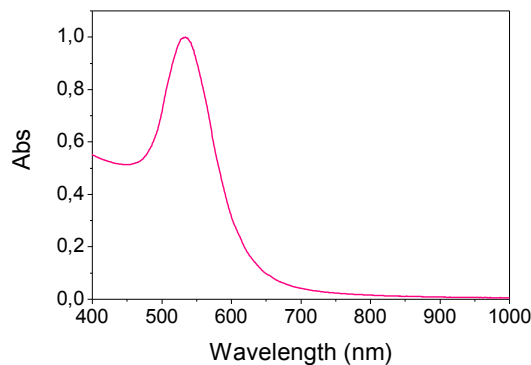
pH of Solution: 5.0

¹ Particle diameter determined by Surface Plasmon Resonance from the spectrum. Haiss et al. Anal. Chem. 2007, 79, 4215-4221.

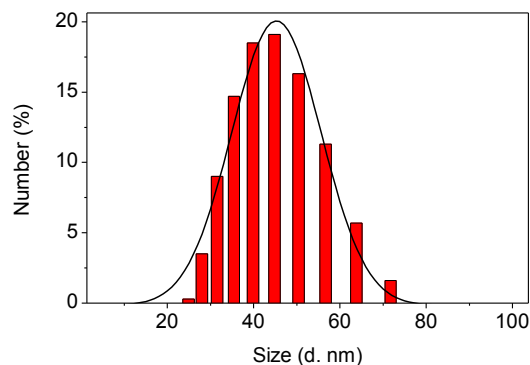
² Determined according to a $\epsilon = 9.1 \times 10^9 \text{ M}^{-1} \cdot \text{cm}^{-1}$. Werts et al. Analyst 2013, 138, 583-592.



UV/visible absorbance spectrum



Size Distribution (DLS)



Suggested Application(s)

- Biosensing
- Catalysis
- Drug delivery
- Colorimetric probes
- Lateral flow immunoassays

Ordering Information

Product Name	Nº Nanoparticles/mL	O.D.	ϵ (M ⁻¹ cm ⁻¹)	Quantity	Catalogue No.
NITgold Cit 40nm	6,62E+10	10D	9,10E+09	25mL	51001417V
NITgold Cit 40nm	6,62E+10	10D	9,10E+09	100mL	510014160
NITgold Cit 40nm	6,62E+10	10D	9,10E+09	250mL	51001416C
NITgold Cit 40nm	6,62E+10	10D	9,10E+09	500mL	51001416F
NITgold Cit 40nm	1,99E+11	30D	9,10E+09	25mL	51001517V
NITgold Cit 40nm	1,99E+11	30D	9,10E+09	100mL	510015160
NITgold Cit 40nm	1,99E+11	30D	9,10E+09	250mL	51001516C

Product disclaimer

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