

NITgold COOH-PEG 12nm

#510016 & #510017 & #510018 & #510019

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

Description

12 nm-PEG-Gold Nanoparticles are uniform quasi-spherical nanoparticles functionalized with ligand shells of different monodentate poly(ethylene glycol)-thiol (PEG-SH) ligands (3000 or 5000 Da) having a carboxylic acid end group, which can be further used to immobilize covalently biomolecules by formation of stable amide bonds with primary amines using the carbodiimide coupling reaction with NHS (N-hydroxysuccinimide) and EDC (1-ethyl-3-(3-dimethylaminopropyl carbodiimide hydrochloride).

Polyethylene glycol functionalized gold nanoparticles have a high stability in biological media such as phosphate-buffered saline solution (PBS) even in the presence of high concentrations of NaCl. 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.

Technical Specifications

Particle Surface: PEG-COOH(5000 or 3000 Da) capping	Peak SPR wavelength: 520 nm
Average Diameter: ¹ 12.6 ± 1.5 nm	Hydrodynamic Diameter (DLS): 11 ± 2 nm
Molar Concentration: ² 0.29 μM	O.D.: 50
Particle Concentration: 1.76×10 ¹⁴ particles/mL	Z-Potential: -19.8 mV
Solvent: Milli-Q Water	pH of Solution: 5.0

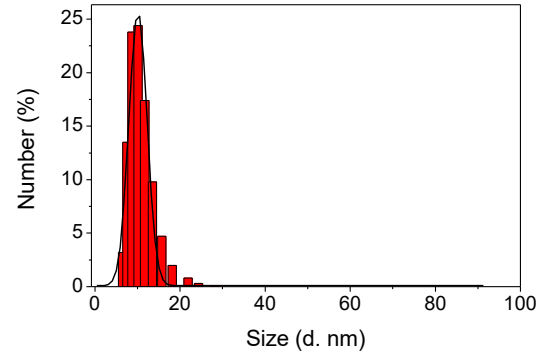
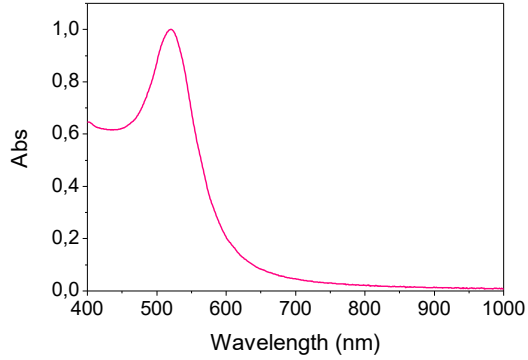
¹ Particle diameter determined by Surface Plasmon Resonance from the spectrum. Haiss et al. Anal. Chem. 2007, 79, 4215-4221.

² Determined according to a $\epsilon = 1.71 \times 10^8 \text{ M}^{-1} \cdot \text{cm}^{-1}$. Werts et al. Analyst 2013, 138, 583-592.



UV/visible absorbance spectrum (diluted 50 times)

Size Distribution (DLS)



Suggested Application(s)

- Biosensing
- Drug delivery
- Colorimetric probes
- Cellular uptake

Ordering Information

Product Name	Nº Nanoparticles/mL	O.D.	ϵ (M ⁻¹ cm ⁻¹)	Quantity	Catalogue No.
NITgold COOH-PEG 3000Da 12nm	1,76E+14	500D	1,71E+08	1mL	51001715S
NITgold COOH-PEG 3000Da 12nm	1,76E+14	500D	1,71E+08	5mL	51001715W
NITgold COOH-PEG 5000Da 12nm	1,76E+14	500D	1,71E+08	1mL	51001915S
NITgold COOH-PEG 5000Da 12nm	1,76E+14	500D	1,71E+08	5mL	51001915W

Product disclaimer

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