

NITgold COOH-PEG 30nm

#510020 & #510021 & #510022 & #5100123

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

Description

30 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).

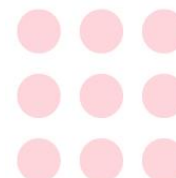
Polyethylene glycol functionalized gold nanoparticles have a high stability in biological media such as phosphate-buffered saline solution (PBS) even in the presence of high concentrations of NaCl. Once functionalized, they can be employed as platforms for many applications such as target-specific drug delivery, sensors, lateral flow tests, imaging probes for dark-field microscopy, flow cytometry, cancer photothermal therapy, catalysis, and optoelectronic.

Technical Specifications

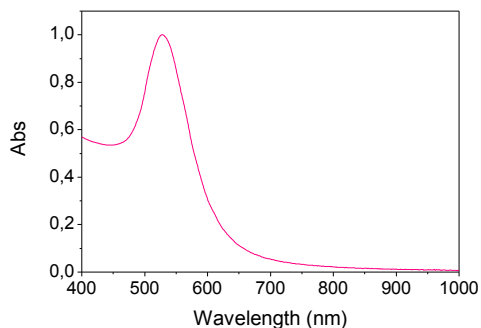
Particle Surface: PEG-COOH(5000 or 3000 Da) capping	Peak SPR wavelength: 528 nm
Average Diameter: ¹ 30.0 ± 3.6 nm	Hydrodynamic Diameter (DLS): 31 ± 5 nm
Molar Concentration: ² 14.3 nM	O.D.: 50
Particle Concentration: 8.6×10 ¹² particles/mL	Z-Potential: -29.3 mV
Solvent: Milli-Q Water	pH of Solution: 5.0

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

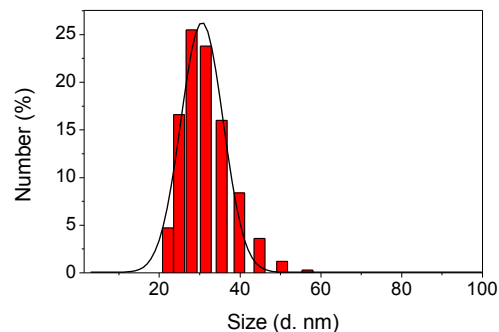
² Determined according to a $\epsilon = 3.5 \times 10^9 \text{ M}^{-1} \cdot \text{cm}^{-1}$. Werts et al. Analyst 2013,138, 583-592.



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 30nm	8,55E+12	500D	3,52E+09	1mL	51002115S
NITgold COOH-PEG 3000Da 30nm	8,55E+12	500D	3,52E+09	5mL	51002115W
NITgold COOH-PEG 5000Da 30nm	8,55E+12	500D	3,52E+09	1mL	51002315S
NITgold COOH-PEG 5000Da 30nm	8,55E+12	500D	3,52E+09	5mL	51002315W

Product disclaimer

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