

## 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

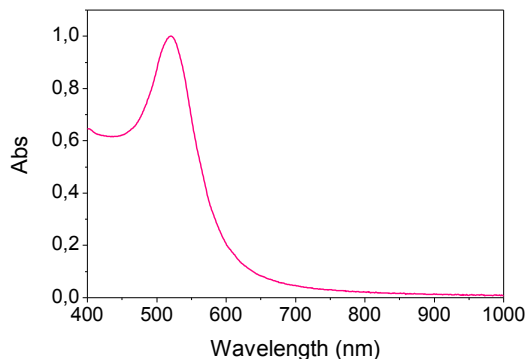
<b>Particle Surface:</b> PEG-COOH(5000 or 3000 Da) capping	<b>Peak SPR wavelength:</b> 520 nm
<b>Average Diameter:</b> <sup>1</sup> 12.6 ± 1.5 nm	<b>Hydrodynamic Diameter (DLS):</b> 11 ± 2 nm
<b>Molar Concentration:</b> <sup>2</sup> 0.29 µM	<b>O.D.:</b> 50
<b>Particle Concentration:</b> 1.76×10 <sup>14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

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

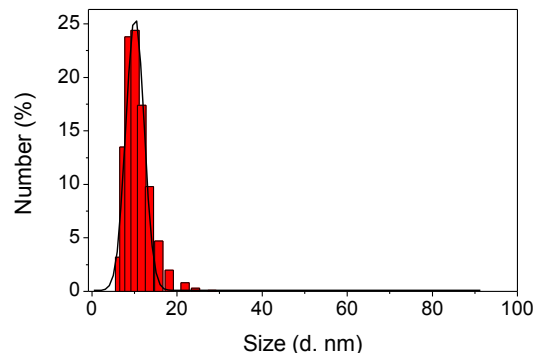
<sup>2</sup> Determined according to a  $\epsilon = 1.71 \times 10^8 \text{ M}^{-1} \cdot \text{cm}^{-1}$ . Werts et al. Analyst 2013,138, 583-592.



**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.	$\epsilon$ (M <sup>-1</sup> cm <sup>-1</sup> )	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**

This nitparticles® product is to be used for research purposes only. Unless stated in the documentation of on an individual product label, catalog or other information provided to the buyer, IT IS FORBIDDEN TO USE IT for different purposes, including but not limited to them: in vitro diagnostic, use in food, pharmaceutical purposes, medical purposes, or use in cosmetic products, neither for use in humans nor animals, nor for any commercial purposes. Please refer to [www.nitparticles.com](http://www.nitparticles.com) for the Material Safety Data Sheet of the product.

