

Ntracker™

Nanopartz™ has developed and optimized Ntracker™ nanorods specifically for use in biological, preclinical, and *in vivo* applications. Ntracker™ nanorods are coated in a dense layer of hydrophilic polymers that shield the gold surface and give the particles ultra long-circulation times *in vivo*. As opposed to other commercially available nanoparticles with short circulation times, such as quantum dots, Ntracker™ nanorods have been rigorously tested *in vivo* to yield superior circulation times a variety of mammalian species. Ntracker™ nanorods are available with transverse plasmon resonance peaks in the visible and near-infrared.

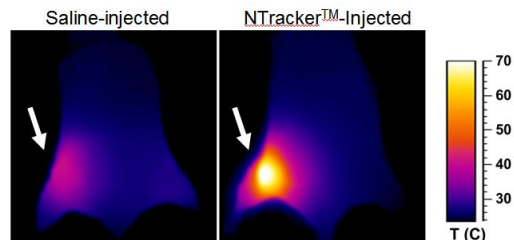


Composition

The gold nanorods are shipped in PBS at pH=7.4

Specification Overview

In batch size variation	< 10% CV
Shape monodispersity	>95% nanorods
Surface charge (zeta)	+0 mV typ
Axial size	10 nm
Wavelength coverage	700-850 nm
pH	~5



Infrared thermographic image showing In-vivo heating from Ntracker™ nanorods permeated in a cancer tumor. Laser excitation is a 2 W/cm² 808 nm diode laser ex vivo.

Custom Formulation and Production

10 nm axial sized nanorods are used for wavelengths 700 nm, 750 nm, 780 nm, 808 nm, and 850 nm since the 10 nm size offers the highest photothermal conversion per gram. Refer to application and technical notes.

Quantity

This product is available in highly concentrated 1 ml sizes. For a 20g mouse, 0.150 ml per injection is required.

Delivery

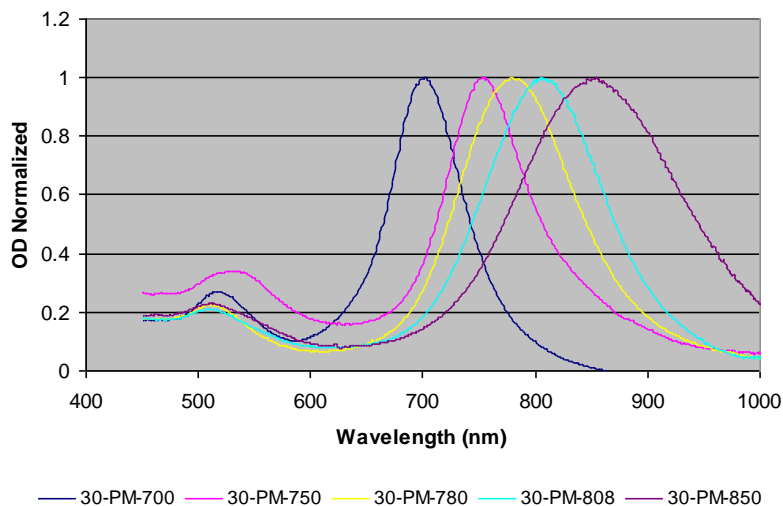
All orders come with a batch distribution curve for quality assurance. Standard sizes are in stock. Special order sizes will be shipped in two weeks or less. All shipments are sent Fed Ex Standard Overnight delivery. No shipments on Fridays.

Storage instructions

Store at 4°C and do not freeze. Before use, allow nanorods to warm to room temperature (refer to App Notes for in vivo use). If necessary, resuspend using sonication or vortexing. Shelf life is 6 months.

Conjugation

There are no conjugation possibilities with the *Ntracker™* nanorods. Consequently, it is strongly recommended that for conjugating the customer should purchase our *Ntherapy™* or *Nsense™* nanorods prepared with amine- and carboxyl- terminations for the specific purpose of conjugating target antibodies.



Typical normalized UV-VIS for Ntracker™ 30-PM series

Specifications

Part # Nanorod (Axial Diam/Peak LSPR)	Axial Diameter (nm)	Long Size (nm)	Peak LSPR Wave (nm)	OD LSPR (AU)	Peak SSPR Wave (nm)	OD SSPR (AU)	NPS/ml	Wt. conc (µg/ml)	Wt. %	PPM	Molarity (pM)	LSPR Molar Ext. (M- 1cm-1)	SSPR Molar Ext. (M- 1cm-1)	Peak LSPR accuracy (nm)	LSPR Linewidth 80% (nm)
30-PM-850	10	45	850	50.0	512	12.50	2.6E+13	1785.7	0.1786%	1786	43699	1.14E+09	2.86E+08	+/-10	100
30-PM-808	10	41	808	50.0	512	12.50	2.9E+13	1805.6	0.1806%	1806	48943	1.02E+09	2.55E+08	+/-10	75
30-PM-780	10	38	780	50.0	512	12.50	3.1E+13	1745.8	0.1746%	1746	50982	9.81E+08	2.45E+08	+/-10	65
30-PM-750	10	35	750	50.0	512	12.50	3.2E+13	1670.7	0.1671%	1671	53199	9.40E+08	2.35E+08	+/-10	50
30-PM-700	10	29	700	50.0	512	12.50	3.3E+13	1483.6	0.1484%	1484	55617	8.99E+08	2.25E+08	+/-10	40

LSPR = Longitudinal SPR peak

SSPR = Axial SPR peak

Shape monodispersity (% rods) > 95%

Size variation +/-10% (both dimensions)

Aspect ratio variation = Peak LSPR accuracy/96

Product Number

	Ntracker Part #
700 nm	30-PM-700
750 nm	30-PM-750
780 nm	30-PM-780
808 nm	30-PM-808
850 nm	30-PM-850