

Ntherapy™

Nanopartz™ has developed and optimized Ntherapy™ nanorods specifically for use in biological, preclinical, and *in vivo* applications. Ntherapy™ nanorods are coated in a dense layer of polymers with amine, carboxyl, biotin, and neutravidin active sites. The polymers shields the gold surface and gives the particles long circulation times *in vivo* while the varied terminations provide a multitude of conjugation options. As opposed to other commercially available nanoparticles with short circulation times, such as quantum dots, Ntherapy™ nanorods have been rigorously tested *in vivo* to yield superior circulation times a variety of mammalian species. Ntherapy™ nanorods are available with transverse plasmon resonance peaks in the near-infrared and are easily conjugated to antibodies, oligos and other targets.

Features

- ❖ Long circulation times
- ❖ Low cytotoxicity. Gold is FDA approved for rheumatoid arthritis. (Cytotoxicity is based on CTAB capping agent concentration and not on the gold itself)
- ❖ Great photothermal conversion efficiency in the near IR
- ❖ Strong two photon fluorescence
- ❖ Facile conjugation ability

Benefits

- ❖ Monodisperse shapes and sizes in production volumes satisfies high volume applications
- ❖ Tunable scattering/absorptions in the NIR create good for multi-label imaging and therapy
- ❖ NIR absorptions are advantageous for *in vivo* applications at the peak transmission window of skin and tissue
- ❖ High photothermal conversion is advantageous for thermally destroying tumors and viruses *in vivo*
- ❖ High photothermal and two photon fluorescence cross sections are advantageous for *in vivo* imaging
- ❖ Easy conjugations provide necessary vehicle for gene therapy



Applications

Imaging

- Photoacoustic Imaging
- Optical Coherence Tomography
- Two photon fluorescence
- SERS

Therapeutics

- Photothermal
- Cancer
- Viral
- Drug Delivery

Product Number

	<i>Ntherapy™</i> Carboxyl Part #	<i>Ntherapy™</i> Amine Part #	<i>Ntherapy™</i> Biotin Part #	<i>Ntherapy™</i> Neutravidin Part #
700 nm	30-PC-700	30-PA-700	30-PB-700	30-PN-700
750 nm	30-PC-750	30-PA-750	30-PB-750	30-PN-750
780 nm	30-PC-780	30-PA-780	30-PB-780	30-PN-780
808 nm	30-PC-808	30-PA-808	30-PB-808	30-PN-808
850 nm	30-PC-850	30-PA-850	30-PB-850	30-PN-850