Optimized Protocol for Gold Nanorods:
- After synthesis of GNR, toxic CTAB removed and GNR surface is activated through thiol group Mercaptohexadecanoic Acid (MHDA or Nanothinks Acid16)
- Monoclonal antibody or specific peptides are attached to GNR via thiol functional group
- Polyethylene glycol (PEG) molecules are attached to GNR via thiol functional group
- GNR-PEG and GNR-mAb-PEG conjugates are purified with differential centrifugation and filtration to achieve consistent performance in biomedical applications.

Synthesis and Conjugation of Gold Nanorods
- Hexadecyltrimethylammonium bromide (CTAB) CTAB Removal and Activation of GNR surface through MHDA, EDC and sulfo-NHS for Antibody Conjugation
- Gold Silver Ascorbic Acid
- HS(CH2)22CH2CH2OOC(CH2)16CNH2
- Highly Specific Binding to Aberrant Receptors on Cancer Cell Surfaces

GNR Product Properties
- Strong optical absorption in the near-infrared spectral range provides for high detection sensitivity of molecular targets
- Highly specific peptides and antibodies assure effective and selective targeting of biomolecules
- Conjugation with PEG coat results in the stealth properties that help to avoid interactions with immune system and enables long circulation time.