





GOLD nanoparticles
SILVER nanoparticles
GOLD NANOurchins

GOLD Nanoparticles have many applications in biology and medicine due to their unique optical and physical properties.

These versatile reagents can be used for biosensor development, as cellular probes, as drug delivery vehicles, or as optical contrast agents among others.

Cytodiagnostics' spherical and non-spherical gold nanoparticle products are made with proprietary protocols resulting in particles with uniform shapes and a narrow size distributions.

Cytodiagnostics' unique SILVER nanoparticles synthesis and purification protocols consistently produce high quality monodisperse silver nanoparticles with a narrow size distribution (CV <15%) and high purity.

Nano silver products are ideal for a wide range of applications including photovoltaics, biological sensor development and nanotoxicology studies.

Cytodiagnostics' spherical silver nanoparticles are available with core sizes of 10nm - 100nm.

Cytodiagnostics' **GOLD NanoUrchins** are available in six different core sizes (50-100nm) and with a comprehensive range of surface functionalities designed for *in vivo* and *in vitro* applications.





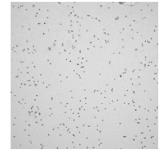


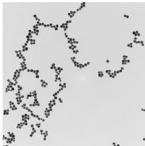
GOLD nanoparticles

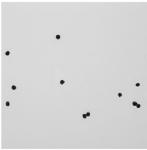
APPLICATIONS

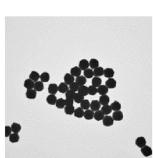
- Conjugate Development
- Plasmonic Sensor Development
- Molecular Imaging
- Surface Enhanced Raman Spectroscopy (SERS)
- Dark Field Microscopy

- Nanotoxicology
- Lateral and Vertical Flow
- Cellular Uptake
- Immunoblotting
- ELISA









PROPERTIES

- Monodisperse, uniform shape, narrow size distribution
- Well defined sizes from 5nm to 400nm
- Precisely engineered & functionalized surfaces
- Extensive range of surface functionalities designed for in vitro and in vivo applications
- Comprehensive technical reference library and experienced technical support

PRODUCTS

- Endotoxin Free Gold Nanoparticles
- Reactant Free Gold Nanoparticles
- Stabilized Gold Nanoparticles
- Antibody and Streptavidin Gold Conjugates
- NHS and Maleimide Activated Gold Nanoparticles
- Carboxy, Amine, NTA, Azide, Alkyne, DBCO and Biotinylated Gold Nanoparticles
- OligoREADY™ and AptamerREADY™ Gold Nanoparticles
- Gold NanoUrchins
- Gold NanoRods
- Gold and Silver Staining Kits
- Passive Adsorption and Covalent Conjugation Kits
- Custom Conjugation Service









Choose **GOLD** nanoparticle products based on application

Application	Range	Surface Chemistry	Benefits
Protein Conjugation	5nm-100nm	Standard (citrate)	Quick
		NTA	Binding of Histidine Tagged Proteins.
		NHS	Covalent conjugation to primary amines, increased stability, less non-specific protein binding.
		Maleimide	Covalent conjugation to thiol groups, increased stability, less non-specific protein binding.
		Carboxyl, Amine	Covalent conjugation, increased stability, less non-specific protein binding.
		Azide, Alkyne, DBCO	Conjugation of ligands using Click Chemistry.
		Streptavidin, Biotin	Can be used with any biotinylated or streptavidin ligand, ideal for high-throughput screenings.
Modification with thiolated ligands (PEG-SH etc.)	5nm-100nm	Standard (citrate)	Classic starting material, no additional stabilizers added.
liganus (FEG-5H etc.)		Stabilized (surfactant)	Increased stability during functionalization but reduced kinetics.
Oligonucleotide Conjugation	5nm-15nm	Standard (citrate)	Ideal for conjugation of thiolated oligonucleotides to small particle sizes.
Aptamer Conjugation	5nm-100nm	OligoREADY™, AptamerREADY™	Ideal for conjugation of thiol modified oligos to particles between 5nm-100nm in diameter.
	5nm-100nm	Maleimide	Ideal for covalent conjugation of thiol modified oligos to particles between 5nm-100nm in diameter.
	5nm-100nm	NHS	For covalent conjugation of amine functionalized oligonucleotides. Ideal when a linker is required between the gold surface and conjugated oligonucleotide.
Immuno-dot blot/Western blot	5nm-20nm	Protein conjugated gold nanoparticles (antibodies, streptavidin etc)	Colorimetric straightforward detection (no equipment required). Generates a permanent label.
Immunohistochemistry (TEM)	5nm-40nm	Protein conjugated gold nanoparticles (antibodies, streptavidin etc)	High contrast label.
Flow Cytometry	50nm-400nm	Gold Size Standards	Ideal for standardization of results between runs and experiments when analyzing particles in the 50nm-400nm range.
Cellular Uptake	30nm-60nm	Transferrin gold conjugate	Active uptake through endocytosis.
		Standard (citrate)	Non-specific cellular uptake.
		Cationic gold (available upon request)	High efficiency non-specific cellular uptake.
Darkfield Microscopy	50nm-100nm	Gold conjugates	
Lateral Flow/Dip-Stick Assays	30nm-80nm	Standard (citrate)	Allows for development of rapid testing kit, point of care assays.
		NHS, Maleimide	
		Carboxyl, Amine	
		Azide, Alkyne, DBCO	
		Streptavidin	
		Protein A	
		Protein G	
Tumor Targeting	30nm-80nm	Methoxy-PEG	Allows for passive targeting of certain tumors <i>in vivo</i> . Inert material with low non-specific protein binding in serum.
Light Microscopy	5nm-10nm	Gold secondary antibody conjugates	Ability to label tissue sections for both light and electron microscopy. Alternative to peroxidase and PAP based stains. Sensitivity can be enhanced with silver enhancement techniques.
ELISA	5nm-30nm	Gold antibody conjugates	Straightforward colorimetric detection.



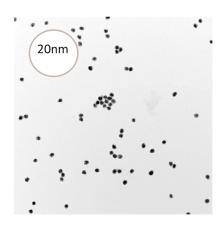


SILVER nanoparticles

APPLICATIONS

- Conjugate Development
- Plasmonic Sensor Development
- Molecular Imaging
- Surface Enhanced Raman Spectroscopy (SERS)
- Bactericidal

- Dark Field Microscopy
- Nanotoxicology
- Lateral and Vertical Flow
- Cellular Uptake
- Immunoblotting



PROPERTIES

- Monodisperse
- Well defined sizes from 10nm to 100nm
- Precisely engineered & functionalized surfaces
- Extensive range of surface functionalities designed for in vitro and in vivo applications

40nm

PRODUCTS

- Spherical Silver Nanoparticles
- Reactant Free Silver Nanoparticles
- Antibody and Streptavidin Silver Conjugates
- NHS, Maleimide Activated Silver Nanoparticles
- Carboxy, Amine and Biotinylated Silver Nanoparticles
- Silver Staining Kits
- Passive Adsorption and Covalent Conjugation Kits
- Custom Conjugation Service











Choose SILVER nanoparticle products based on application

Application	Range	Surface Chemistry	Benefits
Protein Conjugation	10nm-100nm	Standard (citrate)	Quick and classical method.
		NHS	Covalent conjugation to primary amines, increased stability, less non-specific protein binding
		Carboxyl	Covalent conjugation, increased stability, less non-specific protein binding.
		Amine	Conjugation of carboxylated ligands.
		Streptavidin	Can be used with any biotinylated ligand, ideal for high-throughput screenings.
Modification with thiolated ligands (PEG-SH etc.)	10nm-100nm	Standard (citrate)	Classic starting material.
Oligonucleotide Conjugation	10nm-20nm	Standard (citrate)	Ideal for conjugation of thiolated oligonucleotides using a "salt-aging" method.
	10nm-100nm	Carboxyl	Conjugation of amine functionalized oligonucleotides, ideal method for particles above 20nm in diameter.
		NHS	Pre-activated particles for conjugation of amine functionalized oligonucleotides, ideal method for particles above 20nm in diameter.
Immuno-dot blot/Western blot	10nm-30nm	Silver Conjugates (secondary antibodies, streptavidin etc.)	Straightforward colorimetric detection that yields a permanent label with good sensitivity.
Immunohistochemistry (TEM)	10nm-40nm	Silver Conjugates (secondary antibodies, streptavidin etc.)	High contrast label in TEM.
Lateral Flow/Dip-Stick Assays	30nm-80nm	Standard (citrate)	Allows for development of rapid testing kit, point of care assays.
		NHS	
		Carboxyl	
		Amine	
		Streptavidin	
		Protein A/Protein G	
ELISA	10nm-30nm	Silver Conjugates	Straightforward colorimetric detection.
Light Microscopy	10nm	Silver Conjugates	
Cellular Uptake	30nm-60nm	Standard (citrate)	Non-specific cellular uptake.
		Transferrin Silver Conjugates	Active uptake through endocytosis.
In Vitro Applications (eg. Tumor Targeting)	30nm-80nm	Methoxy-PEG	Allows for passive targeting of certain tumors in vivo. Inert material with low non-specific protein binding in serum.



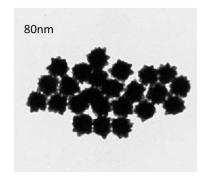


GOLD NANOurchins

APPLICATIONS

- Conjugate Development (Proteins, Antibodies, Oligonucleotides, Aptamers)
- Biological Sensor Development
- Molecular Imaging
- Surface Enhanced Raman Spectroscopy (SERS)
- Dark Field Microscopy

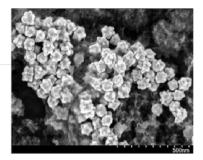
- Nanotoxicology
- Lateral and Vertical Flow Assay Development
- Cellular Uptake
- Immunoblotting
- Nanoelectronics
- Plasmonic ELISA



PROPERTIES

When compared to traditional spherical particles of the same core diameter, Gold NanoUrchins have:

- Higher (blue-shifted) absorption maximums into the near-infrared spectrum.
- Larger surface areas allowing for more functional groups or bioactive molecules to be loaded on.
- Less background for in vivo applications due to infrared light penetrating further into biological tissues.
- Higher signals in surface plasmon resonance (SPR) based assays due to the enhancement of electromagnetic fields upon the NanoUrchin spikes.
- Extensive range of surface functionalities designed for in vitro and in vivo applications.



PRODUCTS

- Standard Gold NanoUrchins
- Reactant Free Gold Nanoparticles
- Endotoxin-Free Gold NanoUrchins
- Antibody and Small Protein NanoUrchin Conjugates
- NHS and Maleimide Activated Gold NanoUrchins
- Carboxylated, Aminated and Biotinylated Gold NanoUrchins
- OligoREADY™ & AptamerREADY™ Gold NanoUrchins
- Membrane & Microscopy Silver Staining Kits
- Passive Adsorption and Covalent Conjugation Kits
- Custom Conjugate Development Services









Choose GOLD NanoUrchins products based on application

Protein Conjugation	Standard, Reactant or Endotoxin Fre	ee Quick
	NTA	
		Binding of Histidine Tagged Proteins.
	NHS	Covalent conjugation to primary amines, increased stability, less non-specific protein binding.
	Maleimide	Covalent conjugation to thiol groups, increased stability, less non-specific protein binding.
	Carboxyl	Covalent conjugation, increased stability, less non-specific protein binding.
	Azide, Alkyne, DBCO	Conjugation of ligands using Click Chemistry.
	Amine	Conjugation of carboxylated ligands.
Modification with thiolated 50nm-10 ligands (PEG-SH etc.)	0nm Streptavidin	Can be used with any biotinylated ligand, ideal for high-throughput screenings.
Oligonucleotide Conjugation 50nm-1	Onm Standard, Reactant or Endotoxin Fre	e Classic starting material, no additional stabilizers added.
50nm-1	Onm Standard, Reactant or Endotoxin Fre	ldeal for conjugation of thiolated oligonucleotides.
50nm-10	Onm OligoREADY™, AptamerREADY™	Ideal for conjugation of thiol modified oligos to particles between 50nm-100nm in diameter.
5nm-10	nm Maleimide	Ideal for covalent conjugation of thiol modified oligos to particles between 50nm-100nm in diameter.
Immuno-dot blot/Western blot 50nm-10	0nm NHS	For covalent conjugation of amine functionalized oligonucleotides. Ideal when a linker is required between the Gold NanoUrchin surface and conjugated oligonucleotide.
Cellular Uptake 50nm-86	nm Protein conjugated gold nanourchin (antibodies, streptavidin etc)	Colorimetric straightforward detection (no equipment required). Generates a permanent dark blue/purple label.
	Transferrin gold nanourchin conjuga	te Active uptake through endocytosis.
Darkfield Microscopy 50nm-10	Onm Standard, Reactant or Endotoxin Fre	Non-specific cellular uptake.
Lateral Flow/Dip-Stick Assays 50nm-8	nm Gold nanourchin conjugates	Ideal for localization studies.
	Standard, Reactant or Endotoxin Fre	ldeal for generation of gold conjugates through passive adsorption of antibodies to the Gold NanoUrchin's surface.
	NHS	Ideal for covalent conjugation of antibodies to Gold NanoUrchin.
	Maleimide	Ideal for conjugation of thiol-modified ligands to Gold NanoUrchin.
Vertical Flow 50nm-8	nm Gold NanoUrchin Conjugates	Pre-made secondary antibody conjugates.
	Standard, Reactant or Endotoxin Fre	ldeal for generation of gold conjugates through passive adsorption of antibodies to the Gold NanoUrchin's surface.
	NHS	Ideal for covalent conjugation of antibodies to Gold NanoUrchin.
	Maleimide	Ideal for conjugation of thiol-modified ligands to Gold NanoUrchin.
Tumor Targeting 50nm-8	nm Gold NanoUrchin Conjugates	Pre-made secondary antibody conjugates.
Light Microscopy 50nm-86	nm Methoxy-PEG Gold NanoUrchin	Allows for passive targeting of certain tumors <i>in vivo</i> . Inert material with low non-specific protein binding in serum.
Plasmonic ELISA 50nm-10	Onm Gold NanoUrchin secondary antiboo conjugates	Ability to label tissue sections for both light and electron microscopy. Alternative to peroxidase and PAP based stains. Sensitivity can be enhanced with silver enhancement techniques.
	Gold NanoUrchin conjugates	Straightforward colorimetric detection.





Terms and Conditions:

- · Discounted price is available until June 30th 2024.
- · Offer cannot be combined with other discounts and cannot be applied to previous orders.

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