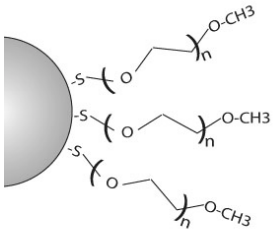
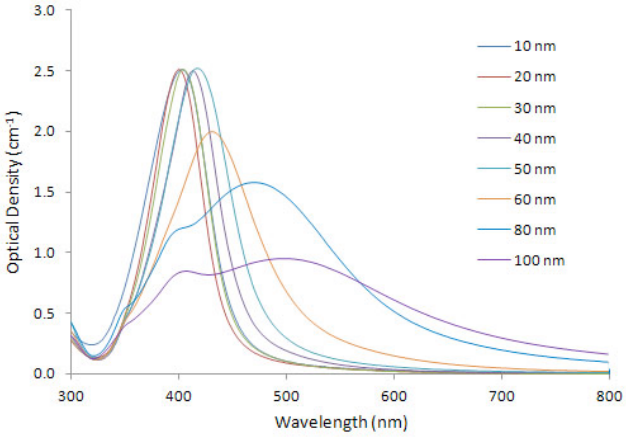
cytodiagnostics

PRODUCT DATA SHEET

Biotin Silver Nanoparticles





Description

Cytodiagnostics biotin silver nanoparticles are precisely engineered for optimal binding of streptavidin labeled molecules.

Our biotin silver nanoparticles are available in 8 different sizes ranging from 10 -100nm, are more than 95% spherical and have uniform size distribution (CV <18%).

For custom sizes, formulations or bulk quantities please contact our customer service department.

Features

• Superior size distribution compared to the leading competitor; available from 10nm to 100nm.
• Precisely engineered surface with low protein binding characteristics.

Applications

• Ideal for development of silver conjugates for use in applications such as blotting, lateral flow assays, LSPR assays, light microscopy, and transmission electron microscopy (TEM) among others.

Characteristics

Core diameter: 10 -100nm (Coefficient of Variance < 18%)
Polydispersity Index (PDI): < 0.25
Concentration: ~0.02mg/ml
Absorbance (λmax): 390-490nm
Nr of biotin groups on surface: ~0.5/nm2
Supplied in UPS Grade H_2O

Storage

This product should be stored at 4°C. Do not freeze. If stored as specified, Cytodiagnostics Biotin Silver Nanoparticles are stable for at least 4 months.

Handling

When stored for a long period of time silver nanoparticles may sediment at the bottom of the vial, which is especially true for larger particle sizes. Prior to use, re-suspend the sedimented particles by swirling until a homogenous solution is obtained.

Precautions and Disclaimer

These products are for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet available online at www.cytodiagnostics.com for information regarding hazards and safe handling procedures.

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Diameter (nm)	Peak SPR Wavelength (nm)	NPS/ml	Wt. Conc. (mg/ml)	Size Dispersity (+/-nm)	Particle Volume (nm^3)	Surface Area (nm^2)	Surface/ Volume Ratio	Particle Mass (g)	Molar Mass (g/mol)	Molar Conc.
10	390-405	~1.8E+14	2.00E-02	<18%	5.24E+02	3.14E+02	0.6	5.49E-18	3.31E+06	2.99E-07
20	390-410	~2.3E+13	2.00E-02	<15%	4.19E+03	1.26E+03	0.3	4.39E-17	2.65E+07	3.82E-08
30	400-410	~7.0E+12	2.00E-02	<15%	1.41E+04	2.83E+03	0.2	1.48E-16	8.93E+07	1.16E-08
40	405-425	~2.8E+12	2.00E-02	<15%	3.35E+04	5.03E+03	0.15	3.52E-16	2.12E+08	4.74E-09
50	410-430	~1.4E+12	2.00E-02	<12%	6.54E+04	7.85E+03	0.12	6.87E-16	4.13E+08	2.14E-09
60	425-450	~8.5E+11	2.00E-02	<12%	1.13E+05	1.13E+04	0.1	1.19E-15	7.14E+08	1.41E-09
80	440-480	~3.5E+11	2.00E-02	<12%	2.68E+05	2.01E+04	0.075	2.81E-15	1.69E+09	5.90E-10
100	480-520	~1.8E+11	2.00E-02	<10%	5.24E+05	3.14E+04	0.06	5.49E-15	3.31E+09	2.99E-10

Catalog Number	Description	Lambda max (nm)	Sizes
SB5K-10- X*	10nm Biotin Silver Nanoparticles (5000Da PEG)	390-405	0.5ml, 1.0ml (125 OD)
SB5K-20- X*	20nm Biotin Silver Nanoparticles (5000Da PEG)	390-410	0.5ml, 1.0ml (125 OD)
SB5K-30- X*	30nm Biotin Silver Nanoparticles (10,000Da PEG)	400-410	0.5ml, 1.0ml (125 OD)
SB5K-40- X*	40nm Biotin Silver Nanoparticles (10,000Da PEG)	405-425	0.5ml, 1.0ml (125 OD)
SB5K-50- X*	50nm Biotin Silver Nanoparticles (10,000Da PEG)	410-430	0.5ml, 1.0ml (125 OD)
SB5K-60- X*	60nm Biotin Silver Nanoparticles (10,000Da PEG)	425-450	0.5ml, 1.0ml (125 OD)
SB5K-80- X*	80nm Biotin Silver Nanoparticles (10,000Da PEG)	440-480	0.5ml, 1.0ml (80 OD)
SB5K-100- X*	100nm Biotin Silver Nanoparticles (10,000Da PEG)	480-520	0.5ml, 1.0ml (46 OD)

NOTE: X* is either -25 for 0.5ml format, or -50 for 1.0ml format.

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