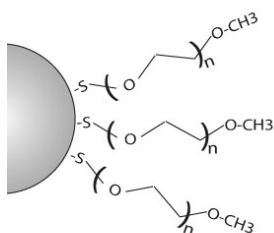


PRODUCT DATA SHEET

Biotin Silver Nanoparticles



Description

Cytodiagnosics 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

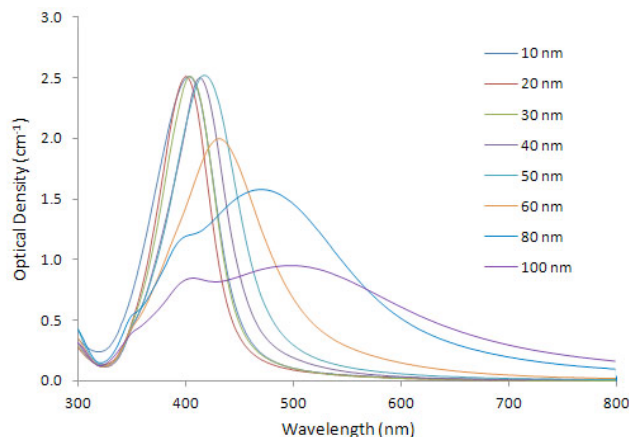
- Superior size distribution compared to the leading competitor; available from 10nm to 100nm.
- Precisely engineered surface with low protein binding characteristics.

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 (λ_{max}): 390-490nm
 Nr of biotin groups on surface: ~0.5/nm²
 Supplied in UPS Grade H₂O



Storage

This product should be stored at 4°C. Do not freeze. If stored as specified, Cytodiagnosics 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.cytodiagnosics.com for information regarding hazards and safe handling procedures.



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.