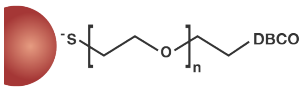
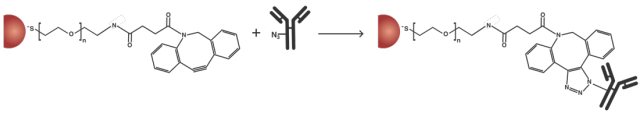
CYTODIAGNOSTICS

PRODUCT DATA SHEET

DBCO Gold Nanoparticles



DBCO



Description

Cytodiagnostics dibenzocyclooctyne (DBCO) functionalized gold nanoparticles are suitable for covalent conjugation of any azide-tagged molecule through click chemistry. The rigid structure of the DBCO allows for quick reactions under more moderate conditions, and eliminates the need for a copper catalyst. This chemistry confers higher stability in aqueous conditions and the lack of copper greatly increases its overall biocompatibility, enabling a multitude of biological applications.

Our DBCO functionalized gold nanoparticles are available in 9 different sizes ranging from 20 - 100nm, are more than 95% spherical and have uniform size distribution (CV <12%).

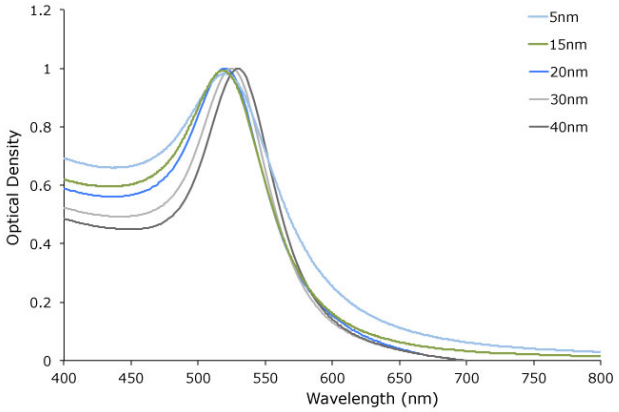
For custom sizes, formulations or bulk quantities please contact our customer service department.

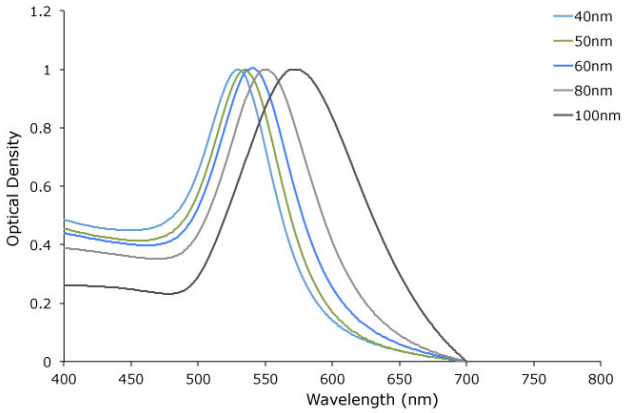
Features

- Superior size distribution compared to the leading competitor; available from 20nm to 100nm.
- Precisely engineered surface with an optimized DBCO density.
- No copper catalyst required
- Greater biocompatibility

Applications

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





Characteristics

Core diameter: 20 - 100nm (Coefficient of Variance < 12%)
Polydispersity Index (PDI): < 0.200
Amount: OD=50
Absorbance (λmax): 520 - 570nm
DBCO surface density: 1/nm^2
Supplied in H_2O

Storage

This product should be stored at 4°C. If stored as specified, Cytodiagnostics DBCO Gold Nanoparticles are stable for at least 12 months.

DO NOT FREEZE.

Handling

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

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Precautions and Disclaimer

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

Diameter (nm)	Peak SPR Wavelength (nm)	NPS/ml	Wt. Conc. (mg/ml)	Molar Ext ($M^{-1}cm^{-1}$)	Size Dispersity (+/-nm)	Particle Volume (nm^3)	Surface Area (nm^2)	Surface/ Volume Ratio	Particle Mass (g)	Molar Mass (g/mol)	Molar Conc.
20	524	3.27E+13	2.66	9.21E+08	<12%	4.19E+03	1.26E+03	0.3	8.12E-17	4.89E+07	5.45E-08
30	526	8.95E+12	2.46	3.36E+09	<12%	1.41E+04	2.83E+03	0.2	2.74E-16	1.65E+08	1.49E-08
40	530	3.58E+12	2.33	8.42E+09	<12%	3.35E+04	5.03E+03	0.15	6.50E-16	3.91E+08	5.95E-09
50	535	1.76E+12	2.23	1.72E+10	<10%	6.54E+04	7.85E+03	0.12	1.27E-15	7.64E+08	2.92E-09
60	540	9.80E+11	2.15	3.07E+10	<10%	1.13E+05	1.13E+04	0.1	2.19E-15	1.32E+09	1.63E-09
70	548	6.00E+11	2.09	5.03E+10	<10%	1.80E+05	1.54E+04	0.086	3.48E-15	2.10E+09	9.95E-10
80	553	3.91E+11	2.03	7.70E+10	<10%	2.68E+05	2.01E+04	0.075	5.20E-15	3.13E+09	6.50E-10
90	564	2.69E+11	1.99	1.12E+11	<8%	3.82E+05	2.54E+04	0.067	7.40E-15	4.46E+09	4.46E-10
100	572	1.92E+11	1.95	1.57E+11	<8%	5.24E+05	3.14E+04	0.06	1.02E-14	6.11E+09	3.19E-10

Catalog Number	Description	Lambda max (nm)	Sizes
CGDBC-20-X*	20nm DBCO Gold Nanoparticles	524	0.5ml, 1.0ml (50 OD)
CGDBC-30-X*	30nm DBCO Gold Nanoparticles	526	0.5ml, 1.0ml (50 OD)
CGDBC-40-X*	40nm DBCO Gold Nanoparticles	530	0.5ml, 1.0ml (50 OD)
CGDBC-50-X*	50nm DBCO Gold Nanoparticles	535	0.5ml, 1.0ml (50 OD)
CGDBC-60-X*	60nm DBCO Gold Nanoparticles	540	0.5ml, 1.0ml (50 OD)
CGDBC-70-X*	70nm DBCO Gold Nanoparticles	548	0.5ml, 1.0ml (50 OD)
CGDBC-80-X*	80nm DBCO Gold Nanoparticles	553	0.5ml, 1.0ml (50 OD)
CGDBC-90-X*	90nm DBCO Gold Nanoparticles	564	0.5ml, 1.0ml (50 OD)
CGDBC-100-X*	100nm DBCO Gold Nanoparticles	572	0.5ml, 1.0ml (50 OD)

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

For custom sizes, bulk quantities, and custom gold nanoparticle surface chemistry please contact our dedicated customer service team

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