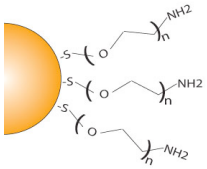
cytodiagnostics

# PRODUCT DATA SHEET

## Amine Gold Nanoparticles




## Description

Cytodiagnostics amine gold nanoparticles are available with two different lengths of PEG surface spacers, i.e. 3000Da and 5000Da offering control of particle hydrodynamic size.

These products are suitable for conjugating proteins and DNA using standard EDC/NHS coupling chemistry.

Our amine gold nanoparticles are available in 12 different sizes ranging from 5 -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

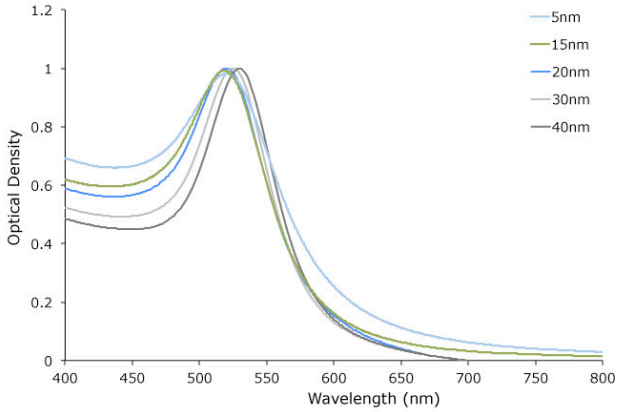
• Superior size distribution compared to the leading competitor; available from 5nm to 100nm.
• Precisely engineered surface with an optimized amine group density for easy conjugation.

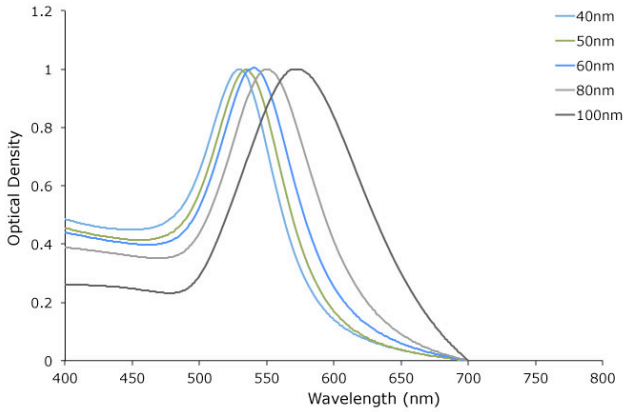
## Applications

• Ideal for development of gold 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: 5 -100nm (Coefficient of Variance < 12%)
Polydispersity Index (PDI): < 0.150
Amount: OD=50
Absorbance (λmax): 510-570nm
Nr of amine groups on surface: ~1/nm2
Supplied in USP Grade $H_2O$




## Storage

This product should be stored at 4°C. Do not freeze. If stored as specified, Cytodiagnostics Amine Gold Nanoparticles are stable for at least 12 months.

## Handling

When stored for a long period of time gold 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) | 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 515-520 | 2.74E+15 | 3.47 | 1.10E+07 | <15% | 6.54E+01 | 7.85E+01 | 1.2 | 1.27E-18 | 7.64E+05 | 4.54E-06 |
| 10 | 515-520 | 2.99E+14 | 3.04 | 1.01E+08 | <15% | 5.24E+02 | 3.14E+02 | 0.6 | 1.02E-17 | 6.11E+06 | 4.97E-07 |
| 15 | 520 | 8.20E+13 | 2.81 | 3.67E+08 | <12% | 1.77E+03 | 7.07E+02 | 0.4 | 3.43E-17 | 2.06E+07 | 1.36E-07 |
| 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 |

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| Catalog Number | Description | Lambda max (nm) | Sizes |
|---|---|---|---|
| CGA3K-5-X* | 5nm Amine Gold Nanoparticles (3000Da PEG) | 515-520 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-10- X* | 10nm Amine Gold Nanoparticles (3000Da PEG) | 515-520 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-15- X* | 15nm Amine Gold Nanoparticles (3000Da PEG) | 520 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-20- X* | 20nm Amine Gold Nanoparticles (3000Da PEG) | 524 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-30- X* | 30nm Amine Gold Nanoparticles (3000Da PEG) | 526 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-40- X* | 40nm Amine Gold Nanoparticles (3000Da PEG) | 530 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-50- X* | 50nm Amine Gold Nanoparticles (3000Da PEG) | 535 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-60- X* | 60nm Amine Gold Nanoparticles (3000Da PEG) | 540 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-70- X* | 70nm Amine Gold Nanoparticles (3000Da PEG) | 548 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-80- X* | 80nm Amine Gold Nanoparticles (3000Da PEG) | 553 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-90- X* | 90nm Amine Gold Nanoparticles (3000Da PEG) | 564 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-100- X* | 100nm Amine Gold Nanoparticles (3000Da PEG) | 572 | 0.5ml, 1.0ml (50 OD) |
| CGA3K-5- X* | 5nm Amine Gold Nanoparticles (5000Da PEG) | 515-520 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-10- X* | 10nm Amine Gold Nanoparticles (5000Da PEG) | 515-520 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-15- X* | 15nm Amine Gold Nanoparticles (5000Da PEG) | 520 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-20- X* | 20nm Amine Gold Nanoparticles (5000Da PEG) | 524 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-30- X* | 30nm Amine Gold Nanoparticles (5000Da PEG) | 526 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-40- X* | 40nm Amine Gold Nanoparticles (5000Da PEG) | 530 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-50- X* | 50nm Amine Gold Nanoparticles (5000Da PEG) | 535 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-60- X* | 60nm Amine Gold Nanoparticles (5000Da PEG) | 540 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-70- X* | 70nm Amine Gold Nanoparticles (5000Da PEG) | 548 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-80- X* | 80nm Amine Gold Nanoparticles (5000Da PEG) | 553 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-90- X* | 90nm Amine Gold Nanoparticles (5000Da PEG) | 564 | 0.5ml, 1.0ml (50 OD) |
| CGA5K-100- X* | 100nm Amine Gold Nanoparticles (5000Da PEG) | 572 | 0.5ml, 1.0ml (50 OD) |

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

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