

Product Catalog 2026

Nano Flow — Gold nanoparticles & conjugation services for lateral flow assays

Why Nano Flow

- Highly uniform, spherical nanoparticles designed to improve precision and sensitivity in lateral flow assays.
- Industrial-scale manufacturing with strong batch-to-batch reproducibility and flexible volumes (mL to multi-liter).
- Certificate of Analysis provided for each batch (TEM, DLS, UV-Vis), with additional characterization available upon request.
- Practical support: conjugation protocols and dedicated technical assistance for assay developers.

Quick selection guide

Your need	Recommended solution
Standard lateral flow labeling with passive adsorption	Citrate-stabilized gold nanoparticles
Enhanced stability in demanding buffers / complex matrices	Carboxylated gold nanoparticles with covalent coupling
Fast prototyping / benchmarking / sensitivity upgrade	Off-the-shelf gold conjugates
Custom antibody, controlled loading, or scale-up to manufacturing	Custom conjugation service (development + production)

1. Highly Spherical Citrate-Stabilized Gold Nanoparticles

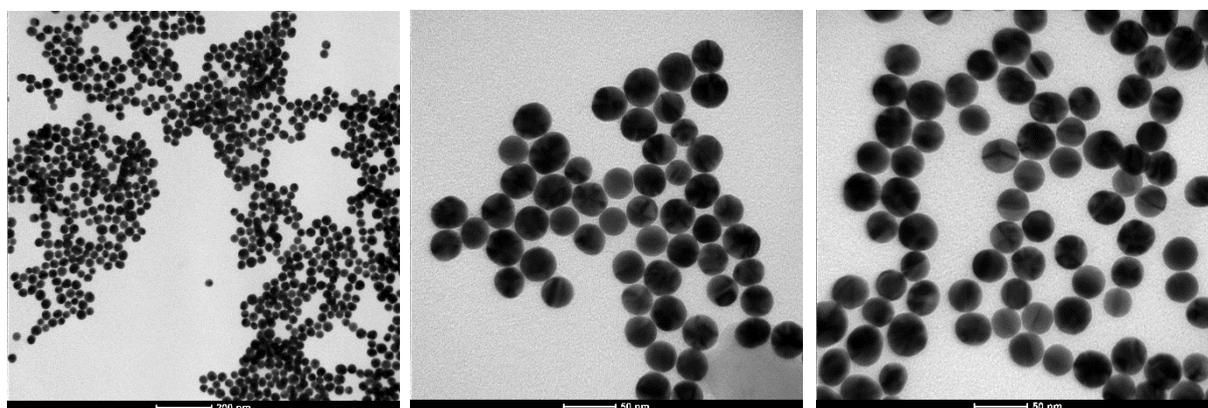
Key highlights

- Tight size distribution and high sphericity for consistent flow and signal generation.
- Water storage buffer; 18-month shelf life.
- Flexible packaging sizes and volumes up to 10 L (depending on size).

Typical applications

- Passive adsorption conjugation for most lateral flow assays.
- Rapid feasibility studies and assay optimization.

Choose our citrate-stabilized, highly spherical gold nanoparticles to improve assay precision, increase sensitivity, and ensure long-term stability.



Each new particle batch is supplied with a Certificate of Analysis, including characterization data from Transmission Electron Microscopy (TEM), Dynamic Light Scattering (DLS), and UV-Vis spectroscopy.

	20nm gold particles	40nm gold particles	60nm gold particles	80nm gold particles
Reference	NF-BG20	NF-BG40	NF-BG60	NF-BG80
Size	17-23 nm	35-40 nm	56-64 nm	75-85 nm
CV on particles size	<15%	<13%	<10%	<10%
Sphericity	99+%	99+%	-	-
Odd shapes per 100 particles	≤1%	≤1%	-	-
Optical Density	8.5	8.5	8.5	8.5
Single Batch scale	Max. 13L	Max. 13L	Max. 1L	Max. 1L
Capping agent	Citrate	Citrate	Citrate	Citrate
Storage buffer	water	water	water	water
Shelf life	18 months	18 months	18 months	18 months
Packaging sizes	50-100-250-500ml; 1L; 2L; 5L; 10L	50-100-250-500ml; 1L; 2L; 5L; 10L	50-100-250- 500ml;1L	50-100-250- 500ml;1L

Conjugation protocol and dedicated support available upon request.

2. Highly Spherical Carboxylated Gold Nanoparticles

Key highlights

- –COOH surface designed for covalent coupling when maximum robustness is required.
- Phosphate buffer storage; 18-month shelf life.
- Flexible packaging sizes from 1 mL to multi-liter (depending on size).

Typical applications

- Assays requiring high stability in complex samples (e.g., blood, saliva).
- Buffers rich in salt, surfactants, or proteins.

Passive adsorption is often the simplest route. When extra robustness is required—e.g., to limit antibody desorption during storage, to work in salt/surfactant/protein-rich buffers, or to operate in complex matrices such as saliva, blood, urine, stool, or sputum—covalent coupling becomes the preferred option.

Our patented surface chemistry introduces –COOH functionalities enabling covalent coupling through a robust carbon–gold bond. This approach is designed for enhanced conjugate stability, especially in demanding buffers and complex samples.

	20nm Carboxylated Gold Particles	40nm Carboxylated Gold Particles	60nm Carboxylated Gold Particles	80nm Carboxylated Gold Particles
Reference	NF-BG20COOH4	NF-BG40COOH4	NF-BG60COOH4	NF-BG80COOH4
Size	17-23 nm	35-40 nm	56-64 nm	75-85 nm
CV on particles size	<15%	<13%	<10%	<10%
Sphericity	99+%	99+%	-	-
Odd shapes per 100 particles	≤1%	≤1%	-	-
Optical Density	8.5	8.5	8.5	8.5
Single Batch scale	Max. 13L	Max. 13L	Max. 1L	Max. 1L
Capping agent	COOH groups	COOH groups	COOH groups	COOH groups
Storage buffer	Phosphate buffer	Phosphate buffer	Phosphate buffer	Phosphate buffer
Shelf life	18 months	18 months	18 months	18 months
Packaging sizes	1-5-10-50-100-500ml; 1L; 10L	1-5-10-50-100-500ml; 1L; 10L	1-5-10-50-100-500ml; 1L	1-5-10-50-100-500ml; 1L

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Conjugation protocol and dedicated support available upon request.

3. Custom Conjugation Service - Passive Adsorption & Covalent Binding

Let Nano Flow handle your gold conjugate development and manufacturing—so you can focus on assay development and commercialization. Benefit from flexible supply options and excellent batch-to-batch reproducibility through our high-scale, automated conjugation processes.

- **Custom gold conjugate - Development**

Passive adsorption: optimization of conjugation pH and blocking strategy, with four antibody loading conditions. Delivered as 4 formulations (2 mL each) across OD 1–40 for evaluation—using <1 mg antibody.

Covalent coupling: EDC/sulfo-NHS activation of –COOH groups for controlled antibody surface coverage (25% to 100%). Delivered as 4 formulations (2 mL each) across OD 1–40 for evaluation—using <1 mg antibody.

Note: Carboxylated gold nanoparticles can be further modified with specific chemical groups, including DBCO, N3, alkynes, amines, and others. Contact us to discuss your specific modification needs.

- **Custom gold conjugate - Production (Passive & Covalent binding)**

	20nm Custom Gold conjugate	40nm Custom Gold conjugate	60nm Custom Gold conjugate	80nm Custom Gold conjugate
Size	17-23 nm	35-40 nm	56-64 nm	75-85 nm
CV on particles size	<15%	<13%	<10%	<10%
Sphericity	99+%	99+%	-	-
Odd shapes per 100 particles	≤1%	≤1%	-	-
Optical Density	From 1 to 100	From 1 to 100	From 1 to 100	From 1 to 100
Antibody load	From very low to saturation	From very low to saturation	From very low to saturation	From very low to saturation
Storage buffer	Borate-BSA (passive) PBS-BSA-Tw20 (covalent)	Borate buffer (passive) PBS-BSA-Tw20 (covalent)	Borate buffer (passive) PBS-BSA-Tw20 (covalent)	Borate buffer (passive) PBS-BSA-Tw20 (covalent)
Single Batch scale	Max. 20L (OD10)	Max. 20L (OD10)	Max. 20L (OD10)	Max. 20L (OD10)
Packaging sizes	10-50-100-250-500ml; 1L; 2L; 10L	10-50-100-250-500ml; 1L; 2L; 10L	10-50-100-250-500ml; 1L; 2L; 10L	10-50-100-250-500ml; 1L; 2L; 10L

Each new conjugated particle batch is supplied with a Certificate of Analysis, including characterization data from Transmission Electron Microscopy (TEM), Dynamic Light Scattering (DLS), UV-Vis spectroscopy and more upon customer request.

4. Off-the-shelf Gold Conjugates

Key highlights

- Ready-to-use conjugates to accelerate prototyping and benchmarking.
- Available at OD 20 with volumes from 1 mL to 1 L+.
- Each batch supplied with Certificate of Analysis (TEM, DLS, UV-Vis).

Accelerate feasibility studies and shorten time-to-market with ready-to-use gold conjugates—ideal for rapid prototyping, benchmarking, and sensitivity upgrades.

- **Primary antibody gold conjugates**

Product	OD	Volume	Reference
INFECTIOUS DISEASES			
Zika Virus gold conjugate	20.0	1ml-1L+	NF-ZIKVE-AU
Dengue Virus gold conjugate	20.0	1ml-1L+	NF-DENV-AU
Chikungunya Virus gold conjugate	20.0	1ml-1L+	NF-CHIKVE1-AU
West Nile Virus gold conjugate	20.0	1ml-1L+	NF-WNVNS1-AU
Malaria (Pf HRP2) gold conjugate	20.0	1ml-1L+	NF-HRP2-AU
SARS-CoV-2 (NP) gold conjugate	20.0	1ml-1L+	NF-SARSN-AU
Ebola Virus (NP) gold conjugate	20.0	1ml-1L+	NF-EBOVNP-AU
Monkeypox Virus gold conjugate	20.0	1ml-1L+	NF-MPXV-AU
Influenza A (Flu A) Gold Conjugate	20.0	1ml-1L+	NF-FLUA-AU
Influenza B (Flu B) Gold Conjugate	20.0	1ml-1L+	NF-FLUB-AU
CARDIAC MARKERS			
Brain Natriuretic Peptide (BNP) gold conjugate	20.0	1ml-1L+	NF-BNP-AU
NT-pro BNP gold conjugate	20.0	1ml-1L+	NF-NTproBNP-AU
INFLAMMATORY MARKERS			
CRP gold conjugate	20.0	1ml-1L+	NF-CRP-AU
Procalcitonin gold conjugate	20.0	1ml-1L+	NF-PCT-AU
ANTIMICROBIAL RESISTANCE			
Anti-Klebsiella pneumoniae carbapenemase (KPC) gold conjugate	20.0	1ml-1L+	NF-KPC-AU
Anti- New Delhi metallo-beta-lactamase (NDM-1) gold conjugate	20.0	1ml-1L+	NF-NDM-AU
Anti-OXA-type carbapenemase gold conjugate	20.0	1ml-1L+	NF-OXA-AU
Anti-Verona Integron-Mediated Metallo-beta-lactamase (VIM) gold conjugate	20.0	1ml-1L+	NF-VIM-AU
Anti-IMP-type metallo-beta-lactamase gold conjugate	20.0	1ml-1L+	NF-IMP-AU

Each new off-the-shelf primary gold conjugate batch is supplied with a Certificate of Analysis, including characterization data from Transmission Electron Microscopy (TEM), Dynamic Light Scattering (DLS), and UV-Vis spectroscopy.

- **Secondary antibody gold conjugates**

Product	OD	Volume	Reference
Goat anti-human IgG gold	20.0	1ml-1L+	NF-GAHG-AU
Goat anti-human IgM gold	20.0	1ml-1L+	NF-GAHM-AU
Goat anti-human IgA gold	20.0	1ml-1L+	NF-GAHA-AU
Mouse anti-SARS-COV-2 gold (anti-NP/anti-RBD/anti-S1)	20.0	1ml-1L+	NF-MANP-AU NF-MARBD-AU NF-MAS1-AU
Goat anti-mouse IgG gold	20.0	1ml-1L+	NF-GAM-AU
Rabbit anti-mouse IgG gold	20.0	1ml-1L+	NF-RAM-AU
Goat anti-rat IgG gold	20.0	1ml-1L+	NF-GARAT-AU
Mouse anti-rat IgG gold	20.0	1ml-1L+	NF-MAR-AU
Rabbit anti-goat IgG gold	20.0	1ml-1L+	NF-RAG-AU
Goat anti-rabbit IgG gold	20.0	1ml-1L+	NF-GAR-AU
Goat anti-chicken IgY gold	20.0	1ml-1L+	NF-GAC-AU
Chicken IgY gold	20.0	1ml-1L+	NF-CHY-AU
Protein A gold	20.0	1ml-1L+	NF-PROTA-AU
Protein G gold	20.0	1ml-1L+	NF-PROTG-AU
Protein A/G gold	20.0	1ml-1L+	NF-PROTAG-AU
BSA gold	20.0	1ml-1L+	NF-BSA-AU
Goat anti-biotin gold	20.0	1ml-1L+	NF-GABIOT-AU
Mouse anti-biotin gold	20.0	1ml-1L+	NF-MABIOT-AU
Streptavidin gold	20.0	1ml-1L+	NF-STREPT-AU
Mouse anti-digoxin gold	20.0	1ml-1L+	NF-MADIGO-AU
Rat anti-2-Dinitrophenyl (DNP) gold	20.0	1ml-1L+	NF-RADNP-AU
Mouse anti-His tag gold	20.0	1ml-1L+	NF-MAHIS-AU
Mouse anti-FITC gold	20.0	1ml-1L+	NF-MAFITC-AU

Each new off-the-shelf secondary gold conjugate batch is supplied with a Certificate of Analysis, including characterization data from Transmission Electron Microscopy (TEM), Dynamic Light Scattering (DLS), and UV-Vis spectroscopy.

**Get in touch for samples, a personalized quote, or any questions about our products and services—
we're here to help.**

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