



CYTODIAGNOSTICS



CYTOGROUP

**VERTICAL
FLOW**
Products and
Services

Vertical Flow Assay Products The Fast Track to Diagnostics

Experts in rapid test development and gold nanoparticle conjugation.



The world leader in complete bio-manufacturing for VFA and LFA development

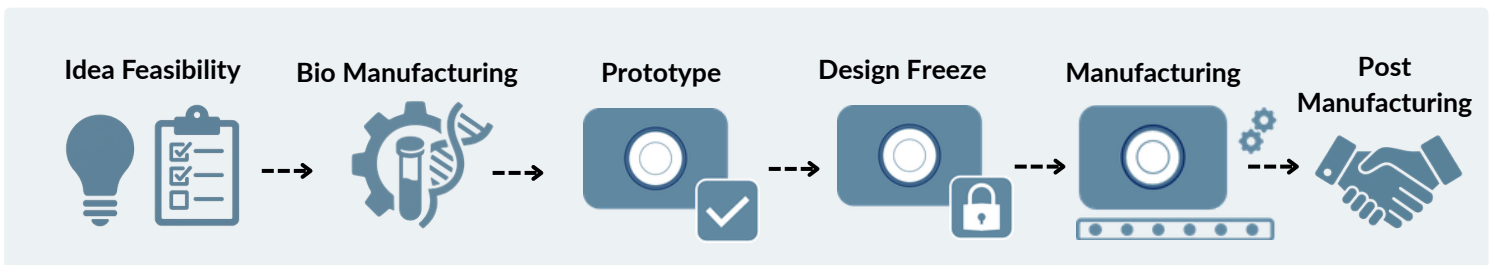
Applications



Why Choose CytoGroup?

We provide complete end-to-end vertical flow assay development – from concept to post-manufacturing support. With in-house expertise in the area of antibodies, aptamers, antigens, recombinant proteins, sequencing, and oligonucleotides, we streamline every stage of your project. Our integrated approach ensures faster turnaround, consistent quality, and reliable performance – turning innovative ideas into ready-to-launch diagnostic solutions.

Development Process





Collaborative Assay Design From Idea to Implementation

At CytoGroup, we develop Vertical Flow assays (VFA) that combine scientific precision with innovative design. Backed by advanced instrumentation and rigorous quality control, our customizable services ensure each assay meets your research goals – delivering validated, reproducible results from concept to completion.

Tasks

Development Process

Idea Feasibility



Evaluate target suitability, select optimal assay format, and define sensitivity and specificity requirements for robust VFA performance.

Bio Manufacturing



Comprehensive biomolecular manufacturing services, including antibody production, sequencing, recombinant protein expression, and antigen synthesis. **Available in ELISA and LFA (Oligomers and Aptamers)**

Prototype



Assemble and evaluate preliminary VFA kits to confirm functionality, reproducibility, and performance under real assay conditions.

Design Freeze



Finalize all assay components, parameters, and documentation to lock the VFA design before validation and manufacturing scale-up.

Manufacturing



Scale VFA production under ISO 9001 quality management and aligning towards ISO 13485 and 17025.

Post-Manufacturing

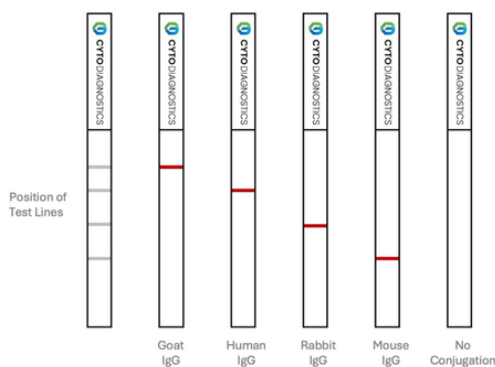


Conduct final quality control, stability, and performance testing to verify lot consistency, then package and release validated VFA kits for distribution.

Passive Gold Conjugation Kit for Validation of VFA Using LFA

Fast, stable, and ready-to-use gold conjugation for next-gen vertical flow assays.

A **Quality Control (QC) Lateral Flow Assay** is a rapid, easy-to-use test designed to verify the performance, stability, and consistency of lateral flow components or finished products. It ensures that each batch meets defined quality standards by confirming proper functionality of the assay system under specified conditions.



LFA Products

Conjugation QC Lateral Flow Dipstick Kit

Cat. No. LF-018-10

Description: A rapid 10-minute test to verify successful antibody or antigen conjugation to gold nanoparticles, supporting quality control for goat, human, rabbit, and mouse IgG sources.

Gold Nanoparticle Conjugation Optimization Kit - LFA

Description: All-in-one system with 40 and 60 nm gold nanoparticles, twelve optimization buffers, NaCl and protein resuspension buffers, and detailed instructions—supports up to ten conjugation optimizations or 20 mL scale-up at OD 3, delivering consistent, high-quality results.

No QC Conjugation Test or Universal Lateral Flow Kit

Cat. No. GO-LF-200

QC Conjugation Test Kit

Cat. No. GO-LF-200-QC

Universal Lateral Flow Kit

Cat. No. GO-LF-200-LF

Both QC conjugation Test or Universal Lateral Flow Kit

Cat. No. GO-LF-200-LFQC

Additional Optimization Kits

Gold Nanoparticle Conjugation Optimization Kit

Available in 5-100 nm Gold Nanoparticles - with or without QC validation kits.

Catalogue No.: GO-X-100-Y

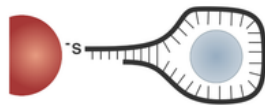
X - nm particle size

Y - QC Conjugation Test Kit

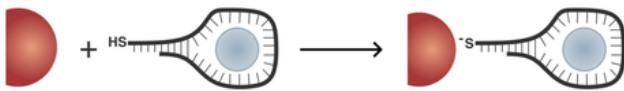
Description: A complete, easy-to-use system for developing high-quality gold nanoparticle-protein conjugates across a wide size range. Each kit includes gold nanoparticles (5–100 nm), twelve optimization buffers, NaCl and protein resuspension buffers, and a detailed protocol—enough to optimize up to ten conjugates or scale up to 20 mL at OD 3.

Oligo/AptamerREADY™-Activated Gold Nanoparticles (AuNPs)

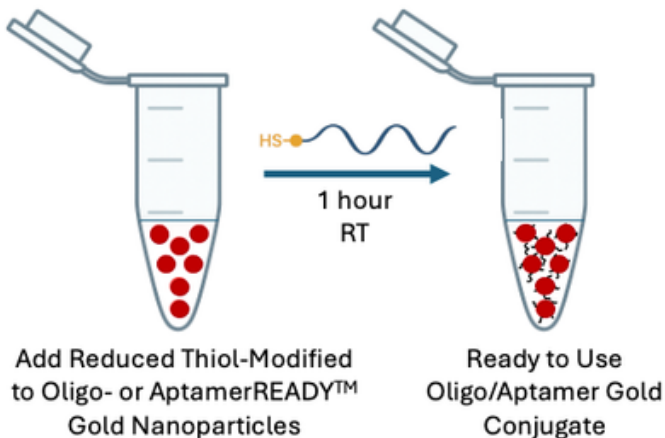
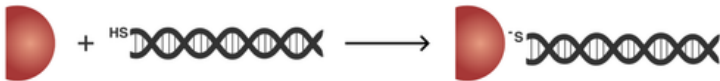
Fast, stable, and ready-to-use gold conjugation for next-gen vertical flow assays.



Aptamers



Oligonucleotides



AptamerREADY-Activated AuNPs are available with Purification (Spin) Columns

Catalogue No.: AGC-X-Y-Z

X - nm particle size

Y - No. of Reactions (i.e., 3 or 10)

Z - Spin Columns (i.e., 0, 1, 5)

Description: Cytodiagnostics AptamerREADY™ Gold Nanoparticle Conjugation Kits enable rapid, high-efficiency one-step attachment of thiolated aptamers directly to gold surfaces. Ready-to-use and pre-mixed, the kits eliminate activation and salt-aging steps—simply combine your thiol-modified aptamer with the pre-activated nanoparticles for fast, stable gold–thiol conjugation.

5-100nm AptamerREADY-Activated AuNPs Conjugation Kit

OligoREADY-Activated AuNPs are available with Purification (Spin) Columns

Catalogue No.: OGC-X-Y-Z

X - nm particle size

Y - No. of Reactions (i.e., 3 or 10)

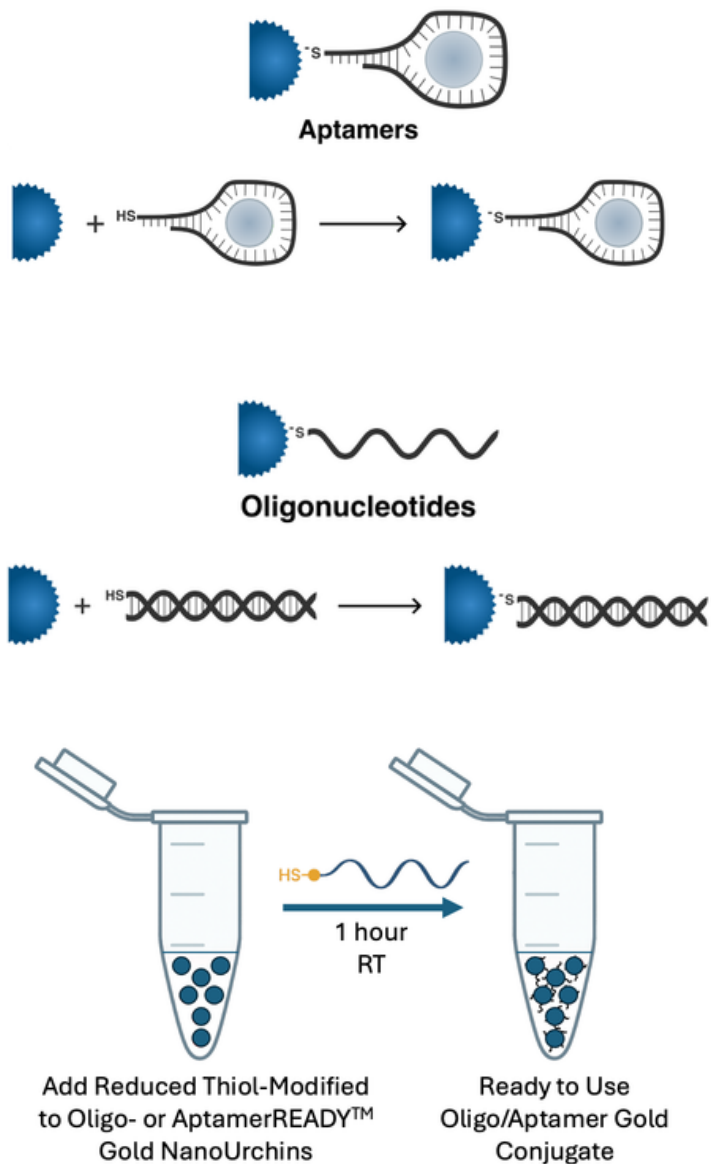
Z - Spin Columns (i.e., 0, 1, 5)

Description: Cytodiagnostics OligoREADY™ Gold Nanoparticle Conjugation Kits enable rapid, high-efficiency one-step attachment of thiolated oligonucleotides directly to gold surfaces. Ready-to-use and pre-mixed, the kits eliminate activation and salt-aging steps—simply combine your thiol-modified oligonucleotide with the pre-activated nanoparticles for fast, stable gold–thiol conjugation.

5-100nm OligoREADY-Activated AuNPs Conjugation Kit

Oligo/AptamerREADY™-Activated Gold NanoUrchins (AuNUs)

Fast, stable, and ready-to-use gold conjugation for next-gen vertical flow assays.



AptamerREADY-Activated AuNUs

Catalogue No.: AUC-X-Y

X - nm particle size

Y - No. of Reactions (i.e., 3 or 10)

Description: Cytodiagnosics AptamerREADY™ Gold NanoUrchin Conjugation Kits provide a rapid, high-efficiency one-step solution for attaching thiolated aptamers directly to the gold surface of NanoUrchins (50–100 nm). Each kit includes pre-activated, ready-to-use reagents—no activation, manipulation, or salt-aging required. Simply mix your thiol-modified aptamer for fast, stable gold–thiol conjugation without additional linkers.

50-100nm AptamerREADY-Activated AuNUs Conjugation Kit

OligoREADY-Activated AuNUs

Catalogue No.: OUC-X-Y

X - nm particle size

Y - No. of Reactions (i.e., 3 or 10)

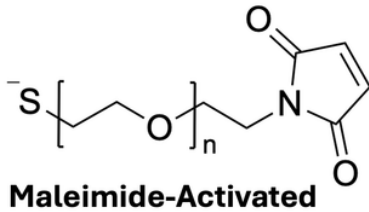
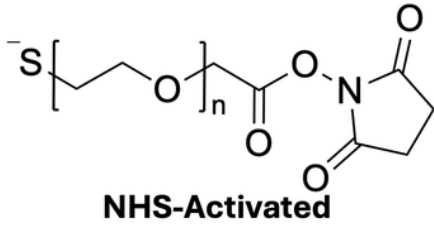
Description: Cytodiagnosics OligoREADY™ Gold NanoUrchin Conjugation Kits enable rapid, high-efficiency one-step attachment of thiolated oligonucleotides directly to the gold surface of NanoUrchins (50–100 nm). Each kit includes pre-activated, ready-to-use reagents, no activation, manipulation, or salt-aging required. Simply mix your thiol-modified oligonucleotide for fast, stable gold–thiol conjugation without additional linkers.

50-100nm OligoREADY-Activated AuNUs Conjugation Kit



Functionalized AuNPs and AuNUs

Fast, stable, and ready-to-use gold conjugation for next-gen vertical flow assays.



Functionalized AuNPs

Description: High-quality gold nanoparticles (5–100 nm) with a range of surface chemistries for precise conjugation, 5K PEG length for 5-40nm and 10K for 50-100nm. Available as NHS, maleimide, carboxyl, amine, Ni-NTA, biotin, click-ready, methyl, and our proprietary OligoREADY™ and AptamerREADY™ coatings. Offered with customizable PEG spacer lengths for optimal performance and reduced non-specific binding.

NHS-Activated AuNPs

Sizes: 5-100 nm

PEG Sizes: 5K (5-40nm), 10K (50-100nm)

Maleimide-Activated AuNPs

Sizes: 5-100 nm

PEG Sizes: 5K (5-40nm), 10K (50-100nm)

Functionalized AuNUs

Description: High-quality gold NanoUrchins (50–100 nm) featuring tailored surface chemistries for precise, stable conjugation. Available as NHS, maleimide, carboxyl, methyl, biotin, and our proprietary OligoREADY™ and AptamerREADY™ coatings. Offered with customizable PEG spacer lengths to optimize conjugation performance and minimize non-specific binding—ideal for developing robust, high-performance NanoUrchin conjugates.

NHS-Activated AuNUs

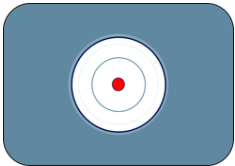
Sizes: 5-100 nm

PEG Sizes: 5K (5-40nm), 10K (50-100nm)

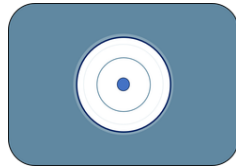
Maleimide-Activated AuNUs

Sizes: 5-100 nm

PEG Sizes: 5K (5-40nm), 10K (50-100nm)



AuNPs VFA



AuNUs VFA



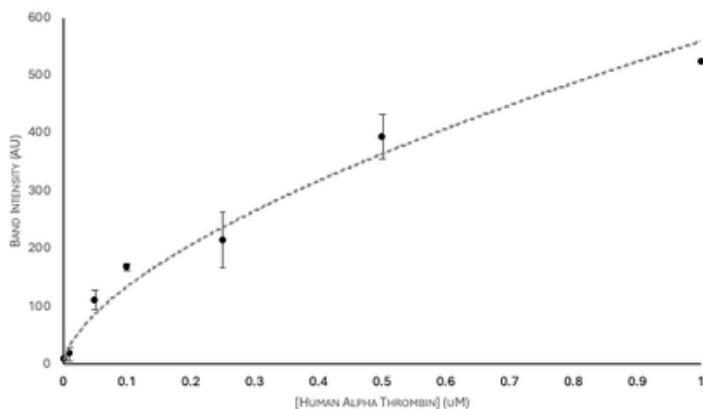
Multiplex VFA using AuNPs



Multiplex VFA using AuNPs and AuNUs

Antigen Specific LFA Kits

Fast, stable, and ready-to-use gold conjugation for next-gen vertical flow assays.



Biotin Detection LFA Kit

Catalogue No.: LF-017-10

Description: The Biotin Detection Lateral Flow Assay Kit is a 15-minute assay used for the validation of biotinylated gold, silver, and NanoUrchin conjugates.

Mouse IgG Fc LFA Dipstick Kit

Catalogue No.: LF-015-10

Description: The Mouse IgG Fc Lateral Flow Assay Kit is a 10-minute assay used for the detection of mouse IgG Fc in culture media, cell lysates, and purified protein samples.

Rabbit IgG Fc LFA Dipstick Kit

Catalogue No.: LF-014-10

Description: The Rabbit IgG Fc Lateral Flow Assay Kit is a 15-minute assay used for the detection of rabbit IgG Fc in culture media, cell lysates, and purified protein samples.

Human IgG Fc LFA Dipstick Kit

Catalogue No.: LF-016-10

Description: The Human IgG Fc Lateral Flow Assay Kit is a 20-minute assay used for the detection of Human IgG Fc in cell culture media, and purified protein samples.

Thrombin Aptamer LFA Kit

Catalogue No.: LF-020-10

Description: The Thrombin Lateral Flow Assay Kit is a 15-minute aptamer sandwich-based assay used for the detection of human α thrombin, a serine protease with a critical role in blood clotting. The kit is designed for detection in human plasma samples and may be used qualitatively by comparing band intensity by eye, or quantitatively by using a lateral flow dipstick reader.

IgG Fc LFA Kits available with ELISA supporting kit.

VFA Cartridges and Antigen Detection Kits

Fast, stable, and ready-to-use gold conjugation for next-gen vertical flow assays.



Miriad RVF Cartridges

Catalogue No.: **VF-1-01 (10 Tests)**
VF-1-02 (50 Tests)

Description: Vertical flow test cartridges for rapid antibody detection. Selected antigens can be spotted onto the nitrocellulose membrane to create custom assays.

Miriad RVF Toolkit, 50 Tests

Catalogue No.: **RVF-05-50**

Description: The Miriad® RVF Toolkit is an off-the-shelf set of proven components designed to support rapid test development using MedMira's patented RVF Technology™ platform. Built for researchers, it streamlines the path from lab concept to commercial product by reducing component sourcing and accelerating assay development.

Miriad RVF Antigen Detection Kit

Catalogue No.: **VF-3-01**

Description: This toolkit enables rapid vertical flow antigen detection through a sandwich immunoassay, producing a visible red spot when target antigen is present.

Miriad RVF Antigen Detection Kit (Gold NanoUrchin)

Cat. No.: **VF-5-01**

Description: This toolkit enables rapid vertical flow antigen detection using a sandwich immunoassay, producing a visible blue spot when target antigen is present using Gold NanoUrchin detection.

Miriad RVF Antibody Detection Kit (Gold NanoUrchin)

Catalogue No.: **VF-4-01**

Description: This toolkit enables rapid vertical flow antibody detection by spotting selected antigens onto the membrane, producing a visible blue spot when target antibodies are present. Up to five antigens can be spotted per cartridge for antibody specificity screening.

Miriad RVF Antibody Detection Kit

Catalogue No.: **VF-2-01**

Description: This toolkit enables rapid vertical flow antibody detection by spotting selected antigens onto the membrane, producing a visible signal when target antibodies are present. Up to five antigens can be spotted per cartridge for antibody specificity screening.