

Lateral Flow Assay Reagents for Bloodborne Diseases

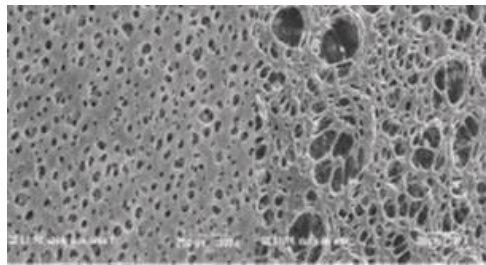


Lateral flow assays are a rapid and user-friendly point-of-care method for detecting various pathogens. Fortis Life Sciences® offers a comprehensive suite of reagents for lateral flow assay manufacturing to detect bloodborne diseases. Our offerings include **asymmetric red blood cell separation membranes, gold nanoparticles, and antibodies validated for performance in lateral flow assays** recognizing HIV, malaria, hepatitis B, and other bloodborne diseases, to support the development and manufacturing of point-of-care diagnostics.

Asymmetric Red Blood Cell Separation Membranes

Fortis offers Primecare™ Poly-ether Sulfone (PES) asymmetric red blood cell separation membranes to enable the separation of red blood cells from plasma. These membranes are designed to rapidly separate red blood cells from plasma while facilitating plasma collection.

We manufacture membranes to a variety of specifications including thickness and pore size to suit the performance requirements of your in vitro diagnostic assay.



2-3μm pore size o membrane bottom (left side) and 40-50μm pores on membrane top (right side)

Why choose PrimeCare membranes?

- **Efficiency:** High separation efficiency per cm² allowing for efficient red blood cell isolation.
- **Sample integrity:** Custom coating solutions to minimize or eliminate red blood cell hemolysis, ensuring optimal sample integrity.
- **Customizable:** Customized pore sizes and thickness options, to prevent red blood cell leakage and regulate migration speed.
- **Filtration Speed:** Rapid separation time as quick as 60s/cm² depending on hematocrit and membrane characteristics.
- **Consistent results:** Inert and resistant to protein binding ensuring reliable and consistent results.
- **Versatile:** Available in different configurations described below for diverse applications.

Feature	S/G Membrane	X Membrane
Description	Standard blood separation membrane.	Thinner than S/G membrane
Coating for optimal sample integrity	Highly effective anti-hemolytic coating.	Lower concentration than S/G
Pore Size Range	~35 μm (top) to ~2.5 μm (bottom)	~35 μm (top) to ~5 μm (bottom)
Filtration Speed	Standard	Faster than S/G
Applications	Ideal for most applications	Small sample volumes or metered plasma release
Dimensional Flexibility	Available in Rolls (~21 cm wide, 10-100 meters long) and Ribbons (7mm to 114.3 mm wide)	

Contact our team to explore which membrane solution best fits your needs:
fortislife.com/membranes

Gold Nanoparticles

As one of the largest gold nanoparticle manufacturers, with in-depth technical expertise in nanoparticle development, we provide high-quality colloidal gold nanospheres and gold nanoshells for use in rapid point-of-care assays.

Particle Type

Our 80 nm colloidal gold and 150 nm gold nanoshells exhibit increased sensitivity in some lateral flow assays compared to industry-standard 40 nm colloidal gold.

Particle Surface

All of our gold particles are available with a bare citrate surface for passive conjugation or a carboxyl surface for covalent conjugation.

For bulk pricing, please visit fortislife.com/bulk-gold

3 Different Particles

Gold Nanospheres
The Industry standard



40 nm



80 nm

Gold Nanoshells
For enhanced sensitivity



150 nm

2 Different Surfaces

Bare Citrate
For rapid passive conjugation



Carboxyl (-COOH)
For robust covalent conjugation



Nanoparticles for Passive Conjugation	
Products	Optical Density (OD)
150 nm Gold Nanoshells	20
40 nm Citrate-coated Colloidal Gold	20
80 nm Citrate-coated Colloidal Gold	20
Nanoparticles for Covalent Conjugation	
150 nm Gold Nanoshells	20
40 nm Colloidal Gold	20
80 nm Colloidal Gold	20
150 nm Streptavidin-coated Gold Nanoshells	10
40 nm Streptavidin-coated Gold Conjugate	10

Antibodies and Antigens for Bloodborne Infectious Diseases

Fortis develops and manufactures reagents including monoclonal and polyclonal antibodies and antigens for lateral flow assay manufacturing.

We also have an extensive range of gold conjugates for lateral flow. Our gold conjugate products are specially formulated for the attachment of a molecular recognition element such as an antibody for lateral flow and biodiagnostics. Our gold nanoshell conjugates have a high sensitivity label for lateral flow, with increased lateral flow assay sensitivity.

HIV	Recombinant HIV gp36 Antigen	RAGHIV36-U
	Recombinant HIV gp41 Antigen	RAGHIV41-U
	Recombinant HIV gp36/gp41 Antigen	RAGHIV3641-U
	Recombinant HIV gp120/41 fusion Antigen	RAGHIV12041-U
Malaria	Mouse anti-Malaria HRPII Monoclonal Antibody	MABMALHRPII – available unconjugated or colloidal gold conjugated
	Mouse anti-Malaria HRPII IgG Monoclonal Antibody	MABMALIGG – available unconjugated or colloidal gold conjugated
	Mouse anti-Malaria HRPII IgM Monoclonal Antibody	MABMALIGM-U
	Mouse anti-Malaria pf LDH Monoclonal Antibody	MABMALPF-U
	Mouse anti-Malaria PAN pLDH Monoclonal Antibody	MABMALPAN – available unconjugated or colloidal gold conjugated
	Mouse anti-Malaria pv LDH Monoclonal Antibody	MABMALPV
Hepatitis B	Mouse anti-Hepatitis B surface antigen (HBsAg) Monoclonal Antibody	MABBHS – available unconjugated or colloidal gold conjugated
	Goat anti-Hepatitis B surface antigen (HBsAg) Antibody	ABHBS-U

Find antibody and antigen pairs for your assay:

fortislife.com/products/lfa-antibodies-antigens

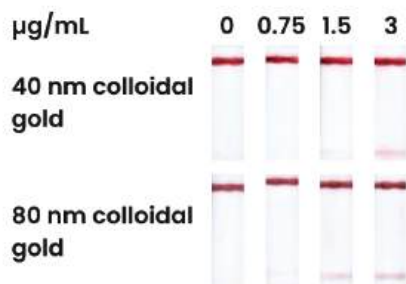


Figure 1: Comparison of malaria assay performance using our 40 nm and 80nm BioReady™ gold nanospheres when testing **pv LDH antigen** using our Malaria capture and conjugate antibodies. 80 nm gold nanospheres led to **2-4x increased assay sensitivity** in comparison to 40 nm gold.

Custom Antibody and Nanoparticle Conjugation

Our scientists and manufacturing teams are experts at gold colloid, gold nanoshell, and antibody conjugate development for quick feasibility work as well as commercial conjugate optimization, scale-up, and large-scale multi-liter manufacturing.

Ready to develop your custom conjugate? Contact our team of experts:

fortislife.com/custom-conjugation-services-for-lateral-flow

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