

PRODUCT DATA SHEET

Miriad™ RVF Antibody Detection Kit (Gold NanoUrchins)

Description

Miriad™ RVF Antibody Detection Kit (Gold NanoUrchins) contains all of the materials required to create a rapid analytical tool for the detection of antibodies in a sample or to evaluate the specificity of an antibody preparation.

In comparison to our other vertical flow kits based on detection with standard gold nanoparticle conjugates, this kit includes a gold nanourchin conjugate. These unique gold nanoparticles with spiky protrusions gives a blue detection color with an improved contrast to that of detection with standard gold nanoparticle conjugates.

To detect antibodies using this kit the selected antigen(s) can be spotted onto the nitrocellulose membrane integrated within the specially designed plastic test cartridge. When the sample is applied any antibodies against the immobilized antigens in the sample will form an antigen/antibody immuno-complex, which is detected through the use of the included Protein A-Gold NanoUrchin Conjugate.

In a fully optimized system, the limit of detection of this technology has been shown to be similar to colorimetric ELISA. However, iterative optimization may be required to achieve this level of performance.

Kit Components

- 10 Miriad™ Test Cartridges
- 12 ml of Universal Buffer
- 80nm Protein A Gold NanoUrchins Conjugate (2 ml @ OD=10)

Storage

Store test cartridges at room temperature and the universal buffer and gold conjugate at 2-8 °C. All components stable for at least 1 year if stored as specified.

Product Safety and Handling

This product is for R&D use only, not for drug, household, or other uses. Please review the material safety datasheet (MSDS) available for proper safety and handling procedures.

Procedure

Antigen Immobilization Procedure for Antibody Detection

1. Dilute the desired capture antigen to a working concentration using a spotting buffer (PBS, pH7-8). Typical protein concentration range is in the order of 1 to 2 mg/ml.
2. Pipette the desired amount of the diluted capture antigen, typically between 0.5 and 1.0 µl, and dispense anywhere on the membrane found in the center of the provided test cartridge.

Caution: Care should be taken to avoid pressing the pipette tip into the membrane surface and the membrane surface should not be touched.

3. The antigen spot needs to dry completely for a minimum of 30 minutes before testing, however, drying times of up to 24 hours may result in a higher protein binding. Alternatively, drying can be enhanced by blowing warm air in a circular motion indirectly towards the membrane using a blow dryer set at low/medium heat for approximately 5 minutes.
4. The prepared cartridges can be stored at room temperature in a dry container with desiccants for periods of up to 12 months, depending upon the nature of the antigen applied.

Testing Procedure for Detection of an Antibody in a Sample

1. Apply 3 drops of Universal Buffer to the center of a test cartridge prepared with antigen as above. Allow the buffer to absorb completely through the membrane.
2. Apply 30 µl of particulate free sample to the membrane (up to 200 µl of sample can be applied to the membrane before the system becomes saturated). Allow the sample to be completely absorbed.
3. Add 200 µl of Protein A Gold NanoUrchin Conjugate to the cartridge and allow the conjugate to absorb completely through the membrane.
4. It is optional to add 3 drops of Universal Buffer to reduce any background and to increase the visibility of the result.
5. A blue dot indicates that your target was present, the absence of a dot means that the target was not

present, or was present at too low concentration to be detected, figure 1 below.

6. The result can now be photographed or scanned.

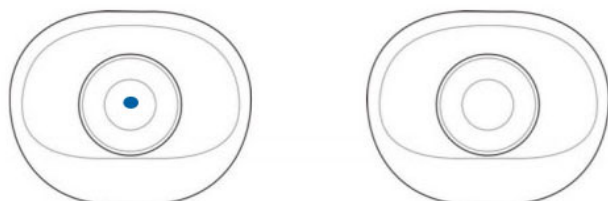


Figure 1. Typical appearance of the test cartridge if target is present (left) or not present (right).

Multiplexing Assays

It is very easy to perform test for multiple analytes of the same nature (either all antigens or all antibodies) on the same cartridge by spotting down different proteins on the membrane surface. Care should be taken to avoid the spots running into one another during spotting as that could confuse subsequent reading of the results.

To obtain higher number of spots on the membrane, the volume spotted onto the membrane needs to be reduced.

Ordering Information

For ordering call 866-344-3954 or visit us online.

Catalogue Number	Description	Quantity
VF-1-01	Miriad™RVF Cartridges	10 Tests
VF-1-02	Miriad™RVF Cartridges	50 Tests
VF-2-01	Miriad™RVF Antibody Detection Kit	10 Tests
VF-3-01	Miriad™RVF Antigen Detection Kit	10 Tests
VF-4-01	Miriad™RVF Antibody Detection Kit (Gold NanoUrchins)	10 Tests
VF-5-01	Miriad™RVF Antigen Detection Kit (Gold NanoUrchins)	10 Tests

For information on bulk quantities, prices and available custom assay development services please contact our customer service department.