Magnetic Fluorescence-Encoded Particles
PRODUCT DATA SHEET

Magnetic Fluorescence-Encoded Particles

Description

Multiplex flow cytometry is used as the detection platform to combine one or more microspheres of particle sizes that are carrying different concentrations of fluorescence signals as the solid phase carries. The set of fluorescent microspheres labeled with proteins can simultaneously detect the substances in the samples. The multiplex flow cytometry platform has advantages of high-speed, wide linear range, high accuracy and good reproducibility in the in-vitro diagnostic. At present, multiplex flow cytometry has a wide range of applications in clinical diagnosis and medical research, such as tumor-related diseases, autoimmune diseases, cardiovascular diseases, inflammatory infections, infectious diseases, etc., which provides higher clinical value for the diagnostic, monitoring and evaluation of diseases.

Abvigen has the developed a set of magnetic fluorescence microspheres, which have 9 independent fluorescent components with strong and persistent fluorescence intensity to improve detection precision. Sufficient surface groups can be coupled with enough amount of antibody and other ligands, to enhance the sensitivity of detection. It is an ideal choice for automatic detection because of particle size uniformity and superparamagnetic.

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: www.abvigen.com Phone: +1 929-202-3014 Email: info@abvigenus.com

Characteristics

Diameter: ~4.0 μm/~5.0 μm

Structure: PS/Fe_3O_4

Surface Functional Group: Carboxyl (-COOH)

Fluorescence Channel: APC

Additives: Trace surfactants

Store: Storage at 2 - 25°C

Quality guarantee period: 36 months

1378 US-206 Ste 6-126, Skillman, NJ USA Email: info@abvigenus.com
Tel: 1-816-388- 0112 Fax: 1- 888-616-0161

Multiplicity: Nine-fold fluorescence

Storage

This product should be stored away from light at 2 - 25°C. **DO NOT FREEZE**.

Highlights

Customized supply

Large scale supply

High-speed

Wide linear range

High accuracy

Good reproducibility

Excellent application effect

Excellent fluorescence performance

Notes

1 Do not freeze, above 25°C should add a small amount of ice to maintain a suitable temperature, do not directly contact the ice with the magnetic beads;

2 The magnetic bead should be fully oscillated before being used, and the bubble should be avoided during removal;

3 This product is only used for scientific research.

Usage method (Taking $1.2x10^7$ microsphere-coupled antibodies as an example)

1. Preparation of buffer solution

1.1 Activation buffer: 0.1 mol/L pH 6.2 PB;

1.2 Coupling buffer: 0.05 mol/L pH 5.0 MES;

1.3 Activators: EDC (50 mg/mL), Sulfo-NHS (50 mg/mL) prepared with activation buffer, ready for use;

1.4 Sealing solution: 0.01 mol/L pH7.0 PBS, BSA (10 g/L);

1.5 Microsphere diluent: 0.05 mol/L pH7.4 tris buffer, BSA (0.5 g/L), T-20 (0.5 mL/L), PC-300 (0.5 mL/L), BND-10 (0.5 ml/L).

2. Coupling process

2.1 Remove the required raw materials and reagents and balance them to room temperature;

2.2 Magnetic fluorescent microspheres (the number of particles is $1.2X10^8$ /mL) of 100 µL (equivalent to $1.2X10^7$) were added into the EP tube and magnetic separation was performed to remove supernipping.

2.3 Add activation buffer for re-suspension, vortex mixing for 10 s, magnetic separation to remove supernatant, repeat this step twice;

2.4 Add 1 mL of activation buffer, vortex mixing for 10 s, add 50 µL Sulfo-NHS and 50 µL EDC successively, vortex mixing for 10 s, and place on the mixing device for activation at 37°C for 0.5 h away from light;

2.5 After activation, magnetic separation will remove supernatant;

2.6 Add 1 mL activation buffer, swirl well for 10 s, magnetic separation to remove supernatant;

2.7 Add 1 mL of coupling buffer and swirl well for 10 s;

2.8 Add 20 µg antibody, swirl it for 10 s, and place it in a homogenizer at 37°C to avoid light for 2 h;

2.9 After the coupling is over, the magnetic separation is supernatted;

2.10 Add 1 mL sealing liquid, swirl and mix for 10 s, and close the mixer at 37°C away from light for 0.5 h (or 4°C away from light overnight);

2.11 After the closure, the magnetic separation will remove the supernatant;

2.12 Add 1 mL of microsphere diluent, swirl well for 10 s, magnetic separation to remove supernatant, repeat this step twice;

2.13 Add 1 mL magnetic fluorescent microsphere diluent and recommend to use after 100 times dilution. The microspheres were diluted 200 times with 2 µL, and the number of magnetic fluorescent microspheres was measured by flow cytometry.

For 10 mg/ml of Magnetic Fluorescence-Encoded Particles

Diameter	Conc. mg/ml	Particles/mg	Particles/ml	Diameter	Conc. mg/ml	Particles/mg	Particles/ml
4	10	1.20E+07	1.20E+08	5	10	1.20E+07	1.20E+08

Ordering Information

Website: www.abvigen.com

Phone: +1 929-202-3014

Email: info@abvigenus.com

1378 US-206 Ste 6-126, Skillman, NJ USA Email: info@abvigenus.com

Tel: 1-816-388- 0112 Fax: 1- 888-616-0161