CD3 Magnetic Nanoparticles
PRODUCT DATA SHEET

CD3 Magnetic Nanoparticles

Description

CD3 nano-magnetic beads can be used for sorting human $CD3^+$T cells by coupling anti-human CD3 monoclonal antibodies on the magnetic beads to achieve the sorting of $CD3^+$T cells. The magnetic beads have a variety of uses, not only can separate and remove $CD3^+$ cells from peripheral blood mononuclear cells (PBMCs), but also can enrich $CD3^+$ cells from PBMC, to remove T cells or purify T cells. Suitable for the production of cell therapy products. Specifically, the surface of the superparamagnetic nanobeads was labeled with anti-human CD3 monoclonal antibodies to form magnetic nanoparticles. CD3 antibodies that are pre-coupled to nanobeads can bind to target cells that express CD3 on the cell surface. The cell/bead mixed suspension was loaded onto the sorting column, and when the CD3 cells were rinsed with the separation buffer, the nanobead-labeled $CD3^+$ cells were retained within the column and enriched during the cleaning step. After removing the magnetic field, the target $CD3^+$ cells can be easily elution from the column.

Abvigen offers high quality CD3 magnetic nanoparticles. The product has high repeatability between batches, which can meet the needs of various customers for personalized materials such as research and development, testing and production.

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

Type: CD3 Magnetic Nanoparticles

Surface group: Anti-CD3

Dispersing solvent: Preservative solution

Size: 2 mL

Storage condition: Store at 2-8°C away from light to avoid freezing.

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

Operation Case

Material preparation

1. Magnetic sorting column and magnetic field (magnetic sorting rack);

2. Separation buffer: 0.01 M PBS+0.5% BSA+ 2 mM EDTA, pH=7.2, refrigerated at 2-8°C for use;

3. Gently mix CD3 nanobeads before use.

Cell preparation

1. When human peripheral blood is used as the isolation sample, peripheral blood mononuclear cells (PBMC) should be isolated using lymphocyte isolation solution;

2. Resuspension PBMC with separation buffer to 1×10^7 PCS /mL, refrigerated at 2-8°C for use.

Magnetic separation

Take a single isolation of 1×10^7 cells as an example:

1. Centrifuge the prepared cell suspension at 300 g for 10 min and discard the supernatant;

2. The cells were precipitated and suspended in 80 μL separation buffer, and 20 μL CD3 nanobeads were added, thoroughly mixed, and incubated at 2-8°C for 15 min.

3. After incubation, add 1 mL separation buffer, centrifuge 300 g for 10 min, discard the supernatant, and re-suspend the cells with 1 mL separation buffer;

4. Place the magnetic sorting column in the magnetic field, add 1 mL separation buffer to wash, and add the cell suspension incubated by CD3 nanoparticle into the magnetic sorting column;

5. When the liquid in the magnetic sorting column flows out, the separation buffer is added twice, adding 1 mL each time, and all the effluent is collected. The effluent is the PBMC that removes $CD3^+$T cells;

6. Remove the magnetic sorting column from the magnetic field, place it on a suitable collection tube, add 1 mL separation buffer to the magnetic sorting column, and use a push rod to flush out the cells trapped in the sorting column, namely $CD3^+$T cells.

Note:

(1) The number of cells isolated in a single time is recommended to be no more than 1×10^7, and when a higher number of cells is used, the amount of reagents and the total volume of the reaction should be increased accordingly;

(2) Keeping the cells operating at 2-8°C can effectively reduce non-specific binding;

(3) The purity of target cells can be improved by using the new magnetic sorting column.

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Applications

The isolation of human $CD3^+$T cells

Production of cell therapy products

Storage

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Ordering Information

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