Anti-Biotin Magnetic Nanoparticles
PRODUCT DATA SHEET

Anti-Biotin Magnetic Nanoparticles

Description

Anti-biotin magnetic nanoparticle is composed of superparamagnetic nanoparticles with uniform size and good biocompatibility, which are coated with highly specific anti-biotin antibodies and can be magnetically labeled and magnetically separated from biotin-labeled cells or other substances. For example, biotin-labeled antibodies, peptides or ligands bind to cell surface markers, and anti-biotin nanomagnetic beads can bind to biotin on the cell surface to achieve target cell capture through negative or positive sorting. The principle is to use the specific interaction between biotin and avidin to fix the compounds or biomolecules that capture biotin on the surface of the bead for the purification of the biotin band labeled molecules and the molecules that interact with them. In simple terms, the biotin-labeled substance is combined with the anti-biotin magnetic beads, and the target substance is purified from the mixture through magnetic separation.

Abvigen offers high quality anti-biotin 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: Anti-Biotin Magnetic Nanoparticles

Surface group: Anti-Biotin

Dispersing solvent: Preservative solution

Size: 2 mL

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

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Operation Case

Material preparation

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

2. Biotinylated antibodies or ligands, etc;

3. 0.01 M PBS, pH=7.2, refrigerate at 2-8°C for later use;

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

5. Gently mix the anti-biotin magnetic nanoparticles before use.

Cell preparation

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

2. When tissue is used as the separation sample, it should be treated into single-cell suspension according to the corresponding method;

3. The above cells were suspended with separation buffer to 1×10^8 cells /mL and refrigerated at 2-8°C for later use.

Magnetic separation

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

1. 100 µL of the prepared cell suspension was taken into a 2 mL centrifuge tube, appropriate amount of biotinized antibodies was added, mixed, and incubated at 2-8°C.

Note: For the dosage and incubation time of biotinized antibodies, please refer to the relevant antibody instructions to ensure the best use effect.

2. Add 1 mL PBS into the cell suspension, mix well, centrifuge 300 g for 10 min, discard the supernatant;

3. Add 80 µL separation buffer to the suspension cells, then add 20 µL anti-biotin magnetic nanoparticles, and fully mix and incubate at 2-8°C for 15 min;

4. After incubation, add 1 mL separation buffer, centrifuge 300 g for 10 min, discard supernatant, and re-suspend cell precipitation with 1 mL separation buffer;

5. The magnetic separation column was placed in the magnetic field, and 1 mL separation buffer was added to wash it, and the cell suspension incubated by the antibiotin nanomagnetic beads was added to the magnetic separation column;

6. Negative separation: After the liquid in the magnetic separation column flows out naturally, the separation buffer is added twice, adding 1 mL each time, and all the outflow is collected. The cells in the effluent were the target cells that were not labeled with anti-biotin magnetic nanoparticles.

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7. Positive sorting: Remove the magnetic sorting column from the magnetic field, place it on a suitable collection tube, absorb 1 mL separation buffer to add to the magnetic sorting column, and wash out the cells trapped in the sorting column with a push rod, that is, the target cells labeled with anti-biotin magnetic nanoparticles;

8. The collected target cells can be used for relevant detection or directly for downstream experiments.

Note:

(1) The number of cells isolated in a single time is recommended to be no more than 1×10^7. 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.

Applications

Magnetically label and magnetically separate biotin-labeled cells or other substances.

Storage

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

Ordering Information

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