Streptavidin Magnetic Nanoparticles
PRODUCT DATA SHEET

Streptavidin Magnetic Nanoparticles

Description

Streptavidin (SA) is a protein with similar biological characteristics to avidin (AV). It is the secretion of streptomyces avidinii. Its molecular weight and biotin binding ability are similar to that of avidin in egg white, with isoelectric point 6.0. Nonspecific binding is much lower than avidin. Streptavidin magnetic nanoparticles can be used for positive or negative sorting of target cells. After the cells were labeled with biotinylated antibodies or ligands, streptavidin magnetic nanoparticles were bound to biotin on the cell surface. Under the action of external magnetic field, the magnetically labeled cells were fixed in the magnetic field, and the non-magnetically labeled cells flowed out of the magnetic field, thus achieving the target cell capture.

Abvigen offers high quality streptavidin 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: Streptavidin Magnetic Nanoparticles

Surface group: Streptavidin (SA)

Dispersing solvent: Preservative solution

Size: 2 mL

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

Operation Case

Material preparation

1. Magnetic sorting column and magnetic field (magnetic sorting rack);
2. Biotinized antibodies;
3. Sorting and binding buffer: 0.01 M PBS+ 2 mM EDTA, pH=7.2, refrigerated at 2-8°C for 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. Mix streptavidin nano-magnetic beads gently 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 biotinylated antibody was added, mixed, and incubated at 2-8°C.

Note: Please refer to the instructions for the dosage and incubation time of biotinylated antibody to ensure the best use effect.

2. Add 1 mL of sorting and binding buffer into the cell suspension, centrifuge 300 g for 10 min, and discard the supernatant;

3. Add 80 µL sorting and binding buffer to the suspension cells, then add 20 µL streptaavin nano-magnetic beads, 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 the supernatant, and re-suspend the cells with 1 mL separation buffer;

5. The magnetic sorting column (washed once with 1 mL separation buffer before use) was placed in a magnetic field, and the cell suspension after incubation with streptavidin nanomagnetic beads was added;

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 unlabeled by streptavidin nanomagnetic beads.

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 by streptavitin nanomagnetic beads;

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

Positive or negative sorting of target cells

Storage

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

Ordering Information

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