



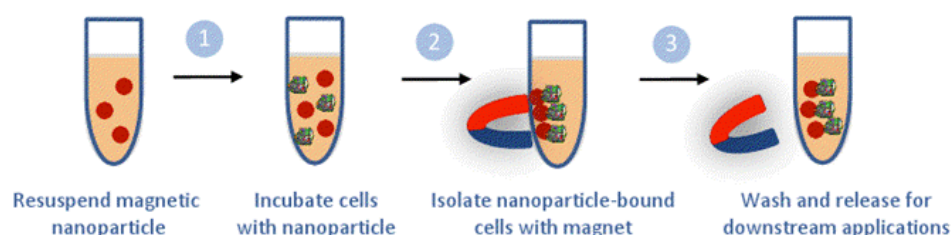
Absolute Mag™ Streptavidin Magnetic Particles, Fluorescent, 200-500 nm

Cat.No: WHM-N044

DESCRIPTION

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Absolute Mag™ Streptavidin Magnetic Particles, Fluorescent, 200-500 nm are unique combination of superparamagnetic iron oxide and quantum dots. They provide high magnetic moment and bright stable fluorescence, ideal for controllable magnetic manipulation with extensive, multiplexed fluorescence imaging. Absolute Mag™ - Streptavidin fluorescent magnetic particles can universally bind to biotin conjugated antibody. Their maximal fluorescence emission is at 635 nm. Excitation wavelength could be 488 nm or shorter. Absolute Mag™ - Streptavidin fluorescent magnetic particles or the downstream complex is easy to be separated using a magnetic rack.



Absolute Mag™ - Streptavidin fluorescent magnetic particles are ideally used together with mouse antibody for isolation or labeling of cells (e.g. CTCs, stem cells) from a mixture of cell population obtained from tissues or organs. The isolated cells are tagged with strong fluorescence and can be directly applied for microscope imaging or other fluorescence-based cell analysis. The isolated cells are also viable and can be further cultured or used for downstream molecular analysis such as mRNA isolation and RT-PCR. Cell separation with Absolute Mag™ magnetic particles eliminates the use of columns, so cells are not exposed to the mechanical stress from passing through the column matrix. Magnetically separated cells are highly purified and retain their viability, ideal for downstream applications.

KIT COMPONENTS

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- Absolute Mag™-Streptavidin Magnetic Particles, Fluorescent (Cat# WHM-N044) are provided in phosphate buffered saline (PBS), pH 7.4. Each vial contains 1 ml of solution with particle concentration of 1 mg/ml, which is enough for binding 20 million cells.
- Capacity: 5 TMg of biotinylated antibody/ml of particles
- Nanoparticle size: 200-500 nm measured using Dynamic Light Scattering.
- Polydispersity index <0.2

STORAGE

Storage Condition

All materials except the magnet should be stored at 4°C. When stored as specified the product is stable for six months.



GENERAL PROTOCOL

Cell Enrichment

This protocol provides a general guidance for enriching 10^5 cells using Absolute Mag™-Streptavidin Magnetic Particles, Fluorescent. Please adjust the amount of reagents for specific application.

1. Gently vortex or pipette the Absolute Mag™-Streptavidin magnetic particles in the vial before use.
2. Aliquot 50 μ l particle solution for enrichment experiment.
Note: 50 μ l is generally sufficient for the enrichment of $1-10 \times 10^5$ cells. Cell capture efficiency can be affected by factors such as frequency of target cells in the cell population, density of antigen/epitope expressed on the cell surface, and the antibody affinity. Adjust the amount of particles accordingly.
3. Wash nanoparticles with 500 μ l of Washing Buffer twice. Separate the particles from the solution by placing the magnet on the side of the tube for 1-2 min and remove the supernatant carefully (with magnet still on the side).
4. Add 500 ng biotin-conjugated antibody (in a volume of 100-200 μ l) to the particle and incubate for 30-60 minutes on a rotator.
Note: 50 μ l particles could bind ~200 ng of antibody.
5. Wash nanoparticle-antibody conjugates with 500 μ l Washing Buffer twice to remove unbound antibody.
6. Resuspend the nanoparticle-antibody conjugates in Washing Buffer (50 μ l) and add it to the cell sample to a total volume of 0.1-0.5 ml.
7. Incubate the nanoparticles with the cell sample on an orbital shaker for 30 minutes at room temperature.
8. After incubation, use a magnet to separate the nanoparticles (with bound cells) from the solution, and carefully remove the supernatant.
9. Wash the nanoparticle-cell complex with 500 μ l cell culture medium twice.
10. Isolated cells can be re-suspended in cell culture medium for downstream applications.

Note: Biotin-conjugated antibody can also be directly added to cell suspension, and then apply nanoparticles for cell capturing.