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

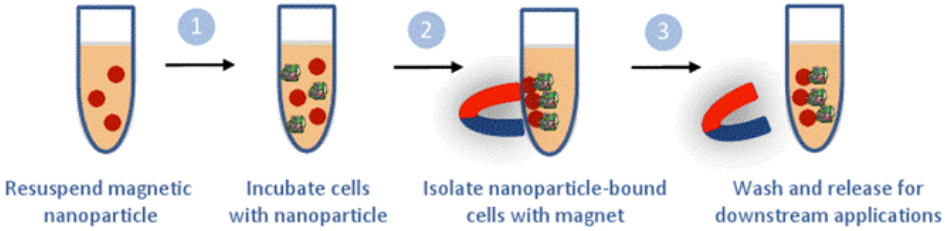
Cat.No: WHM-N037

Please define the emission wavelength in your order

DESCRIPTION

Description

Absolute Mag™ Amine 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™ - NH_2 fluorescent magnetic particles provides you the flexibility of coupling to various molecules at your choice through simple bioconjugation reactions. Their maximal fluorescence emission is at 535, 585, 615, or 635 nm and can be excited at 488 nm or shorter wavelength. Absolute Mag™ – NH_2 fluorescent magnetic particles or the downstream complex is easy to be separated using a magnetic rack.



Absolute Mag™ - NH_2 fluorescent magnetic particles can be ideally conjugated to your choice of 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

Kit Components

- Absolute Mag™-Amine Magnetic Particles, Fluorescent, 200-500 nm (Cat# WHM-N037) are provided in phosphate buffered saline (PBS), pH 7.4. Each vial contains 1 ml of solution with a particle concentration of 1 mg/ml, which is enough for binding 20 million cells.
- 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.

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GENERAL PROTOCOL

Antibody or other molecule conjugation to Absolute Mag™ – NH_2 Surface

1. Determine needed surface coverage of antibody/molecule per magnetic particle.
   Note:*The general range is about 0.3 -1 mg antibody/molecule per mg of Absolute Mag™.*
2. Mix antibody in water with SMCC (Succinimidyl trans4(maleimidylmethyl)cyclohexane-1-carboxylate) based crosslinker in PBS solution. Incubate for 40-60 min.
   Note: *SMCC is used to crosslink the thiol groups from antibody and the –NH_2 groups from Absolute Mag™. SMCC based crosslinker is suggested because of its superior chemical stability when used with our particles and its ease of use.*
3. Purify antibody/molecule-SMCC using size exclusion column.Note: For smaller molecules with similar size as SMCC, use SMCC as the limiting reagent in the reaction. No purification is needed before mixing with Absolute Mag™-NH_2 magnetic particles.
4. Mix samples from step 3 with Absolute Mag™-NH_2 magnetic particles. Incubate overnight under continuous rotation at room temperature.
5. Separate out Absolute Mag™-Antibody/molecule conjugates by magnetic purification.
6. Wash 1-3 times with PBS or other buffer solution. Remove non-magnetically captured solution. Note: one wash could be sufficient for most applications.
7. Resuspend washed Absolute Mag™-Antibody/molecule conjugate into preferred buffer, ready to use.

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