Datasheet for ABIN1305354

# Anti-Human CD8 Magnetic Particles

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## Overview

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| Quantity: | 5 mL |
| Target: | CD8 |
| Reactivity: | Human, Rhesus Monkey |
| Host: | Mouse |
| Clonality: | Monoclonal |
| Conjugate: | Magnetic Particles |
| Application: | Separation (Sep) |

## Product Details

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| Brand: | BD IMag™ |

## Target Details

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| Target: | CD8 |
| Abstract: | CD8 Products |
| Background: | BD IMag™ anti-human CD8 Particles - DM are magnetic nanoparticles that have monoclonal antibody conjugated to their surfaces. These particles are optimized for the positive selection or depletion of CD8-bearing leukocytes using the BD IMagnet™. CD8 is expressed on the peripheral MHC class I-restricted suppressor/cytotoxic T-lymphocyte subset, on a subset of NK cells, and on the majority of thymocytes. The SK1 mAb has been reported to cross-react with lymphocytes of chimpanzee and cynomolgus, pig-tailed, and rhesus macaque. Peripheral Blood Mononuclear Cells (PBMC) are labeled with BD IMag™ Anti-Human CD8 Magnetic Particles - DM according to the Magnetic Labeling Protocol. This labeled cell suspension is then placed |

## Target Details

within the magnetic field of the BD IMagnet™ (Cat. No. 552311). Labeled cells migrate toward the magnet (positive fraction), leaving the unlabeled cells in suspension so they can be drawn off (negative fraction). The tube is then removed from the magnetic field for resuspension of the positive fraction. The separation is repeated twice to increase the purity of the positive fraction. The magnetic separation steps are diagrammed in the Separation Flow Chart. After the positive fraction is washed, the small size of the magnetic particles allows the positive fraction to be further evaluated in downstream applications such as flow cytometry.

## Application Details

Protocol:

1. Prepare PBMC from anti-coagulated human (or rhesus macaque) blood, preferably by density gradient centrifugation using Ficoll-Paque™.
2. Dilute BD IMag™ Buffer (10X) (Cat. No. 552362) 1:10 with sterile distilled water or prepare 1X BD IMag™ buffer by supplementing Phosphate Buffered Saline with 0.5% BSA, 2 mM EDTA, and 0.09% sodium azide. Store at 4°C.
3. Count the cells, wash them with an excess volume of 1X BD IMag™ buffer, and carefully aspirate all the supernatant.
4. Vortex the BD IMag™ Anti-Human CD8 Magnetic Particles - DM thoroughly, and add 50 µl of particles for every 10^7 total cells. The BD IMag™ particles may need to be titrated to optimize the separation of rhesus macaque leukocyte.
5. MIX THOROUGHLY. Incubate at room temperature for 30 minutes. Avoid nonspecific labeling by working quickly and adhering to the recommended incubation times.
6. Bring the BD IMag™-particle labeling volume up to 1-8 x 10^7 cells/mL with 1X BD IMag™ buffer, and immediately place the tube on the BD IMagnet™. Incubate for 8-10 minutes.
7. With the tube on the BD IMagnet™, carefully aspirate off the supernatant. This supernatant contains the negative fraction.
8. Remove the tube from the BD IMagnet™, and add 1 ml of 1X BD IMag™ buffer to the same volume as in Step 6. Gently resuspend cells by pipetting up and down, and return the tube to the BD IMagnet™ for another 2-4 minutes.
9. With the tube on the BD IMagnet™, carefully aspirate off the supernatant and discard.
10. Repeat Steps 8 and 9.
11. After the final wash step, resuspend the positive fraction in an appropriate buffer or media, and proceed with desired downstream application(s).

NOTES:

Hints for successful cell preparation:

## Application Details

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| | a) Draw the blood into a tube containing EDTA (for example, BD Vacutainer EDTA tube, Cat. No. 366457 or 367661).<br>b) Remove the platelet rich plasma by centrifuging once at 220-240 x g.<br>c) Wash 2-3 times in PBS after the density gradient separation.<br>d) Remove clumps of cells and/or debris by passing the suspension through a 70-µm nylon cell strainer. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | Aqueous buffered solution containing BSA and ≤0.09 % sodium azide. |
| Preservative: | Sodium azide |
| Precaution of Use: | This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only. |
| Storage: | 4 °C |
| Storage Comment: | Store undiluted at 4°C. |

## Publications

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| Product cited in: | Reichert, DeBruyère, Deneys, Tötterman, Lydyard, Yuksel, Chapel, Jewell, Van Hove, Linden: " Lymphocyte subset reference ranges in adult Caucasians." in: **Clinical immunology and immunopathology**, Vol. 60, Issue 2, pp. 190-208, (1991) (PubMed).<br><br>Lanier, Le, Phillips, Warner, Babcock: "Subpopulations of human natural killer cells defined by expression of the Leu-7 (HNK-1) and Leu-11 (NK-15) antigens." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 131, Issue 4, pp. 1789-96, (1983) (PubMed).<br><br>Evans, Wall, Platsoucas, Siegal, Fikrig, Testa, Good: "Thymus-dependent membrane antigens in man: inhibition of cell-mediated lympholysis by monoclonal antibodies to TH2 antigen." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 78, Issue 1, pp. 544-8, (1981) (PubMed). |

## Flow Cytometry

**Image 1.**