MagVigen™ - anti CD8A, human
Cat # 51004
v.1810101

Product Description

MagVigen™ - anti-CD8A magnetic nanoparticles are ideal for rapid isolation or depletion of human $CD8A^+$ progenitor stem cells. MagVigen™ magnetic nanoparticles coated with anti-CD8A monoclonal antibody recognize and efficiently bind to $CD8A^+$ cells following a short incubation. The nanoparticle bound $CD8A^+$ cells can be separated from the rest of the sample by magnet.

MagVigen™- anti-CD8A offers high recovery of high-purity and viable cells for use in further downstream molecular assays. The beads bound cells can be lysed for further protein or nucleic acid analysis. MagVigen™ nanoparticles are much smaller than conventional micro-beads. This feature allows for better accessibility of the nanoparticles to the antigenic epitope on cell surfaces. In addition, the surfaces of MagVigen™ nanoparticles are uniquely coated to reduce non-specific interactions with non-targeted CD8A negative cells.

Product Contents

- MagVigen™ - anti-CD8A magnetic nanoparticles are provided in 1 ml of phosphate buffered saline (PBS), pH 7.4.

  Species Reactivity: Human. Others not tested.

All materials should be stored at 4°C for up to 6 months.

Protocol: Deplete or positively isolate CD8A+ cells

1. Dilute blood with an equal volume of PBS +2mM EDTA.
2. Slowly layer the diluted blood over the Ficoll-Hypaque solution in a 50-ml conical centrifuge tube. Use 2ml of Ficoll-Hypaque (not included, product by Sigma Aldrich) per 1ml of blood.
3. Centrifuge at 400g for 40min at room temperature with no brake.
4. Collect the mononuclear cells located at the interface between plasma and the Ficoll-Hypaque and transfer to 15-ml conical tube.
5. Dilute aspirated mononuclear cells with 4 volume of cold PBS.
6. Centrifuge at 400g at 4°C for 10min and discard the supernatant.
7. Re-suspend mononuclear cells from 1ml peripheral blood in 1ml of Ca^{2+} and Mg^{2+} free PBS buffer supplemented with 0.05% BSA and 5 mM EDTA.
8. Wash 25µl of MagVigen-CD8A beads twice with 200uL of PBS Buffer. Re-disperse in 25µl of PBS buffer.
9. Add pre-washed beads to the mononuclear cell solution with 4-5 million cells and incubate with gentle rotation at 4°C for 1-2 hour.
10. Place the tube by a magnet for 5 min.
    For depletion: Transfer supernatant to a new tube for further use and discard the beads.
    For positive isolation: While the tube is still in the magnet, carefully remove and discard the supernatant.
11. Repeat the above wash step one more time.
12. Wash beads-bound cells in 200µl of PBS Buffer and pellet down beads-bound cells as above.
13. Re-suspend isolated cells in PBS or preferred cell medium for further use in downstream applicaitons.