

Monoclonal Anti-human Plexin A4-Phycoerythrin

Catalog Number: FAB58561P

Lot Number: ACLC01

100 Tests

Reagents Provided

Phycoerythrin (PE)-conjugated mouse monoclonal anti-human

Plexin A4: Supplied as 25 µg of antibody in 1 mL saline containing up to 0.5% BSA and 0.09% sodium azide.

Clone #: 707206

Isotype: mouse IgG₁

Reagents Not Provided

- Flow Cytometry Staining Buffer (Catalog # FC001) or other BSA-supplemented saline buffer.

Storage

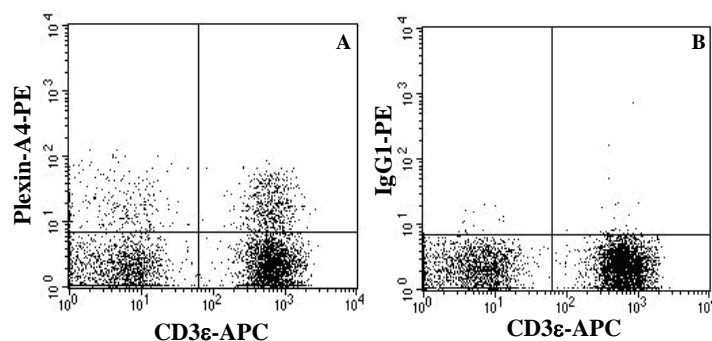
Reagents are stable for **twelve months** from the date of receipt when stored in the dark at 2-8 °C.

Intended Use

Designed to quantitatively determine the percentage of cells bearing Plexin A4 within a population and qualitatively determine the density of Plexin A4 on cell surfaces by flow cytometry.

Product Description

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, CHO-derived, recombinant human Plexin A4 (rhPlexin A4; Accession # Q9HCM2) extracellular domain. The IgG fraction of the tissue culture supernatant was purified by Protein A or G affinity chromatography. The purified antibody was then conjugated to PE fluorochrome. Cell surface expression of Plexin A4 is determined by flow cytometry using 488 nm wavelength excitation and monitoring emitted fluorescence with a detector optimized to collect peak emissions at 565-605 nm.



Human whole blood lymphocytes were stained with either A) PE-conjugated anti-human Plexin A4 (Catalog # FAB58561P) or B) PE-conjugated isotype control (Catalog # IC002P), followed by staining with APC-conjugated anti-human CD3ε (Catalog # FAB100A).

Background Information

Plexin A4 is a 220-230 kDa member of the plexin A subfamily of plexin family proteins. It is found on sensory, autonomic, and motor neurons, oligodendrocytes, T cells, and dendritic cells. Plexin A4 regulates cell migration, activation, and axon guidance via repulsion. It serves as a receptor for transmembrane semaphorins, Semaphorin 6A and 6B, and as a co-receptor with Neuropilin-1 for the secreted semaphorin, Semaphorin 3A. During development, it plays a role in nerve migration and midline crossing and down regulates dendrite formation. It is often co-expressed with Plexin A3, which can also engage class 6 semaphorins, but prefers Semaphorin 3F/Neuropilin-2 to Semaphorin 3A/Neuropilin-1. Thus, Plexins A3 and A4 are redundant in some functions, but unique in others. In T cells, Plexin A4 engages Semaphorin 3A and negatively regulates TCR signals. The extracellular domain of human Plexin A4 shares 97% aa identity with mouse, equine, canine, and bovine Plexin A4.

Flow Cytometry Validation

This antibody has been tested for flow cytometry using human whole blood lymphocytes.

- Cells may be Fc-blocked with 1 µg of human IgG/10⁵ cells for 15 minutes at room temperature. Do not wash excess blocking IgG from this reaction.
- After blocking, 10 µL of conjugated antibody was added to up to 1 x 10⁶ cells and incubated for 30 minutes at room temperature.
- Unbound antibody was removed by washing the cells twice in Flow Cytometry Staining Buffer (Catalog # FC001). Note that whole blood requires a RBC lysis step at this point using Flow Cytometry Human Lyse Buffer (Catalog # FC002).
- The cells were resuspended in Flow Cytometry Staining Buffer for final flow cytometric analysis. As a control for this analysis, cells in a separate tube should be treated with PE-labeled mouse IgG₁ antibody. This procedure may need to be modified, depending upon the cell type and final utilization. Individual users may need to titrate to determine the optimal reagent amount for their specific use.

Warning: Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.