

DESCRIPTION

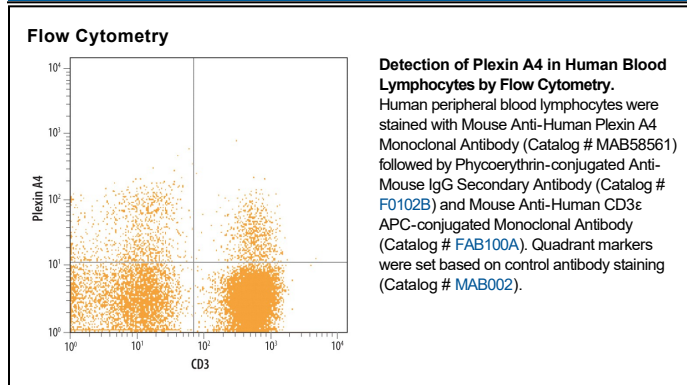
Species Reactivity	Human
Specificity	Detects human Plexin A4 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human Plexin A1, recombinant mouse (rm) Plexin A1 or rmPlexin A2 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 707206
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Plexin A4 Thr24-Pro1237 Accession # Q9HCM2
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Plexin A4 is a 220-230 kDa member of the plexin A subfamily, plexin family of proteins (1). It is found on sensory, autonomic and motor neurons and oligodendrocytes, plus T cells and dendritic cells (1-8). Mature human Plexin A4 is an 1871 amino acid (aa) type I transmembrane glycoprotein with a 23 aa signal sequence, a 1214 aa extracellular domain (ECD), and a 636 aa cytoplasmic region. The ECD contains one Sema-domain (aa 51-482), three PSI domains (aa 509-856) and four IPT regions (aa 858-1230) that contain a phosphoserine at aa 946 (1). Of three isoform variants, one shows a 65 aa substitution for aa 458-1894, a second shows an 80 aa substitution for aa 1292-1894, and a third shows the just mentioned 80 aa substitution coupled to a 14 aa substitution for aa 1-535 (9). The human Plexin A4 ECD shares 97% aa identity with mouse, equine, canine, and bovine Plexin A4. Full-length Plexin A4 also shares 67% aa identity with the most related family member, Plexin A2. Plexin A4 regulates cell migration, activation and axon guidance via repulsion (1-5). It serves as a receptor for transmembrane semaphorins, Sema6A and 6B, and as a coreceptor with neuropilin-1 for the secreted semaphorin, Sema3A (1-8). During development, it plays a role in nerve migration and midline crossing and down-regulates dendrite formation (2-8). It is often co-expressed with Plexin A3, which can also engage class 6 semaphorins but prefers Sema3F/neuropilin-2 to Sema3A/neuropilin-1 (3, 8). Thus, Plexins A3 and A4 are redundant in some functions, but unique in others. In T cells, Plexin A4 engages Sema3A and negatively regulates TCR signals (6).

References:

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2. Suto, F. *et al.* (2005) *J. Neurosci.* **25**:3628.
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4. Waimey, K.E. *et al.* (2008) *Dev. Biol.* **315**:448.
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6. Yamamoto, M. *et al.* (2008) *Int. Immunol.* **20**:413.
7. Okada, A. *et al.* (2007) *Biochem. Biophys. Res. Commun.* **352**:158.
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