

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human Plexin A4 in direct ELISAs and Western blots. In Western blots, approximately 25% cross-reactivity with recombinant mouse (rm) Plexin A1 is observed. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human
Source	Monoclonal Mouse IgG ₁ Clone # 707201
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
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.