Human/Mouse Plexin A1 Alexa Fluor® 532-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4309X
100 µg

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects mouse Plexin A1 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse Plexin A2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Plexin A1 Ser28-Pro1242 Accession # P70206
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 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.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	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 A1 (formerly Plexin 1) is a 200 kDa type I transmembrane protein that is a member of the Plexin family of Semaphorin signal transducers (1). Plexin signaling induces cytoskeletal remodeling, which mediates cell migration and axon repulsion (2). The mouse Plexin A1 cDNA encodes 1894 amino acids (aa) including a 27 aa signal sequence, a 1215 aa extracellular domain (ECD) with one Sema domain, a spacer, and four tandem IPT/TIG domains, a 21 aa transmembrane segment, and a 631 aa cytoplasmic domain (1). Within the ECD, human Plexin A1 shares 95%, 95%, 92%, 80% and 79% aa sequence identity with mouse, rat, bovine, chicken and *Xenopus* Plexin A1, respectively. The four mouse Plexin A molecules share 59-67% aa identity with each other. Plexin A1 binds Class 3 (secreted) Semaphorins indirectly *via* Neuropilin (Npn)-1 and Npn-2, and binds transmembrane Semaphorin 6D directly (3-5). Sema3A engagement of Plexin A1 and Npn-1 guides proprioceptive and sensory neurons during development, while Sema3B engagement guides floorplate neurons (5-8). In contrast, T cell Sema6D engagement of dendritic cell Plexin A1 controls actin polymeration, which supports formation of immunological synapses and enhances the function of the dendritic cells (3, 4, 9). Complex formation with DAP12 allows Plexin A1 signaling through TREM family proteins (10, 11). However, the most striking effect of Plexin A1 deletion is on bone homeostasis, where Plexin A1-deficient mice show increased trabecular bone mass due to downregulated osteoclast differentiation (10). Plexin A1 and Sema6D are frequently expressed in malignant pleural mesothelioma, where they promote anchorage-independent growth through complexing with and activating VEGF R2 (12).

PRODUCT SPECIFIC NOTICES

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