

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Semaphorin 4G in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse (rm) Semaphorin 4G is observed and less than 1% cross reactivity with recombinant human (rh) Semapho
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 4G Val18-Leu675 Accession # Q9NTN9
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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.
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

Semaphorin 4G (Sema4G) is the least characterized of the seven known Class 4 transmembrane semaphorin glycoproteins (1). Class 4 semaphorins have multiple roles in cell attraction or repulsion. These include development of nerve pathways in the brain, promoting or inhibiting proliferation, and in some cases organizing immune cell interactions. Receptors include transmembrane plexins, but alternate receptors, such as CD72 for Sema4D and TIM-2 for Sema4A, have been identified (2, 3). The 838 amino acid (aa) human Sema4G precursor contains a 17 aa signal sequence, a 658 aa extracellular domain (ECD) containing sema and C2-type immunoglobulin domains, a 21 aa transmembrane domain, and a 142 aa cytoplasmic domain with one Ser/Thr phosphorylation site (4). The human Sema4G ECD shares 90%, 92%, 93%, 93% and 92% aa identity with mouse, rat, equine, bovine and canine Sema4G, respectively. It also shares 42% aa identity with Sema4C, the most closely related semaphorin. Two additional isoforms have been reported: an 843 aa form contains a 5 aa insert at aa 542, while a 458 aa form diverges at aa 450 near the end of the Sema domain (5). Sema4G mRNA is expressed early in development in the central and peripheral nervous systems and in sensory organs such as retina, cochlea, vomeronasal organ and olfactory epithelium. In adults, Sema4G mRNA is found in predominantly in the liver, but is also detected in the kidneys and brain. Elevated Sema4G mRNA expression was found in mouse kidney during Plasmodium yoelii infection (6). Sema4G was also identified in a screen for genes that are downregulated in human colorectal cancer (7).

PRODUCT SPECIFIC NOTICES

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