

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Semaphorin 4A in direct ELISAs and Western blots. In direct ELISAs, approximately 80% cross-reactivity with recombinant mouse Semaphorin 4A is observed, and less than 1% cross-reactivity with recombinant human (rh) Semaphorin 4B, rhSemaphori
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 4A Gly32-His683 Accession # Q9H3S1
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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.
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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

Sema4A (Semaphorin 4A; also Sema B) is a class IV member of the semaphorin family of proteins. It is expressed by dendritic cells, monocytes, T cells, B cells, astrocytes and oligodendrocytes, plus visceral smooth muscle and bronchial epithelial cells. It reportedly binds to Tim-2 and Plexin D1 and B1. In the immune system it serves to activate naïve T cells and induce a Th1 phenotype. In the nervous system, it induces growth cone collapse in neurons. Mature human Sema4A is an 80 kDa (predicted) type I transmembrane glycoprotein that is 729 amino acids (aa) in length (aa 33-761). It contains a 651 aa extracellular region (aa 33-683) that is characterized by the presence of one Sema domain (aa 36-494), a PSI region (aa 496-528), and an Ig-like C2-type domain (aa 573-631). The 57 aa cytoplasmic region contains two potential phosphorylation sites at Thr744 and Ser747. There are two potential splice variants. One contains a 37 aa substitution for aa 293-328, while a second contains an alternative start site at Met100 coupled to a deletion of aa 122-154. Sema4A is reportedly cleaved to generate both a monomeric and a dimeric soluble isoforms. Over aa 32-683, human Sema4A shares 86% aa identity with mouse Sema4A.

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