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R&D SYSTEMS

# Human Semaphorin 4A Alexa Fluor® 594-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4694T
100 µg

## DESCRIPTION

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| **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<br>Gly32-His683<br>Accession # Q9H3S1 |
| **Conjugate** | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm |
| **Formulation** | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.*

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

## PREPARATION AND STORAGE

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| **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.

## PRODUCT SPECIFIC NOTICES

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