

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse Semaphorin 4A in ELISA. Stains HEK293 cells transfected with mouse Semaphorin 4A by Flow Cytometry, but does not stain untransfected cells.
<b>Source</b>	Monoclonal Rat IgG <sub>1</sub> Clone # 757129
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse Semaphorin 4A Thr33-Trp638 Accession # Q62178
<b>Conjugate</b>	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	HEK293 human embryonic kidney cell line transfected with mouse Semaphorin 4A and eGFP

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### BACKGROUND

Semaphorin 4A (Sema4A, previously semB) is type I transmembrane protein that is a Class 4 transmembrane Semaphorin with activity in the immune and nervous systems. It is expressed by dendritic cells, monocytes, T cells, B cells, astrocytes and oligodendrocytes, plus visceral smooth muscle and bronchial epithelial cells. The 760 amino acid (aa) mouse Sema4A contains a 650 aa extracellular domain (ECD, aa 33-682) with Sema, PSI and C2-type immunoglobulin domains. It interacts with B and D1 Plexins and lymphocyte TIM-2, enhancing dendritic cell-mediated T cell priming and Th1 responses. Sema4A interaction with endothelial cell plexin-D1 downregulates the actions of VEGF. Mutations of Sema4A are associated with retinitis pigmentosa and cone rod dystrophy in humans. Mouse Sema4A ECD shares 87% and 94% aa sequence identity with human and rat Sema4A, respectively, and shares approximately 35% aa identity with other Sema4 family members. Using this antibody, Sema4A has been shown to interact with Neuropilin-1 in vitro and in vivo to potentiate Treg cell function and survival.

#### References:

1. Delgoffe, G.M. *et al* (2013) *Nature* **501**:252.

#### PRODUCT SPECIFIC NOTICES

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