

#### 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 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.