Human/Mouse Semaphorin 3A APC-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 215803

Catalog Number: IC1250A

100 Tests

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human Semaphorin 3A in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human Semaphorin 3B, 3E, 6A, 6B, 6C, 6D, 7A, recombinant mouse Semaphorin 3C, or 3F is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 215803
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 3A Lys26-Val771 (Arg555Ala, Arg552Ala) Accession # Q14563
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	Supplied 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.

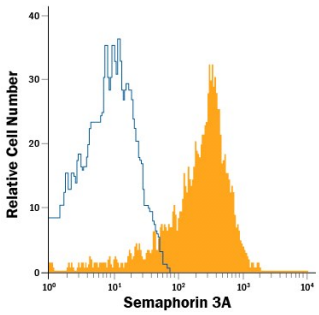
APPLICATIONS

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.*

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 µL/10^6 cells	See Below

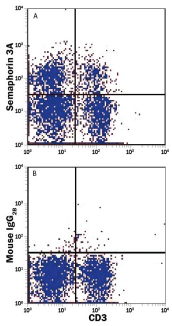
DATA

Intracellular Staining by Flow Cytometry



Detection of Semaphorin 3A in Human PBMCs by Flow Cytometry. Human peripheral blood mononuclear cells were stained with Mouse Anti-Human/Mouse Semaphorin 3A APC-conjugated Monoclonal Antibody (Catalog # IC1250A, filled histogram) or isotype control antibody (Catalog # IC0041A, open histogram). View our protocol for Staining Intracellular Molecules.

Intracellular Staining by Flow Cytometry



Detection of Semaphorin 3A in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Rat Anti-Mouse CD3 PE-conjugated Monoclonal Antibody (Catalog # FAB4841P) and either (A) Mouse Anti-Human/Mouse Semaphorin 3A APC-conjugated Monoclonal Antibody (Catalog # IC1250A) or (B) Mouse IgG_{2B} Allophycocyanin Isotype Control (Catalog # IC0041A). View our protocol for Staining Intracellular Molecules.

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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

BACKGROUND

The Semaphorins constitute a large family of secreted, GPI-anchored and transmembrane cell signaling molecules. Depending on their domain organization and species origin, these proteins can be classified into eight groups. To date, at least 19 vertebrate Semaphorins belonging to five groups (class 3 through 7) have been identified. All Semaphorins contain a conserved, 500 amino acid (aa) Sema domain at the amino terminus. Semaphorins are best known for their roles in axon guidance during neuronal development. Semaphorins are also expressed in non-neuronal tissues and are involved in angiogenesis, hematopoiesis, organogenesis, and the regulation of immune functions (1, 2).

Class 3 Semaphorins (Sema3) are secreted proteins containing a Sema domain, an immunoglobulin c2-like domain and a basic domain near the carboxyl tail. Sema3A (also referred to as SemaIII, SemD and Collapsin) cDNA predicts a 771 aa precursor protein with a putative 25 aa signal peptide (1-3). Bioactive Sema3A is a disulfide-linked dimer (4). The bioactivity is increased after proteolytic processing by a furin-like endoprotease near the carboxy-terminus (1). The functional receptor complex for Sema3 is composed of two distinct transmembrane proteins: Neuropilin-1 (Npn-1) and Plexin-A. Npn-1 binds directly to Sema3A with high-affinity and confers specificity. Plexin-A interacts with Npn-1 to increase the affinity of the complex for Sema3A and serves as the signaling subunit in the receptor complex (1, 2, 5).

References:

1. Nakamura, F. *et al.* (2000) J Neurobiol. **44**:219.
2. Goshima, Y. *et al.* (2002) J. Clin. Invest. **109**:993.
3. Kolodkin, A.L. *et al.* (1993) Cell **75**:1389.
4. Koppel, A.M. *et al.* (1998) J. Biol. Chem. **273**:15708.
5. Yu, T.W. *et al.* (2001) Nature Neurosci. Supplement **4**:1169.
6. Luo Y. *et al.* (1993) Cell **75**:217.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956