

DESCRIPTION

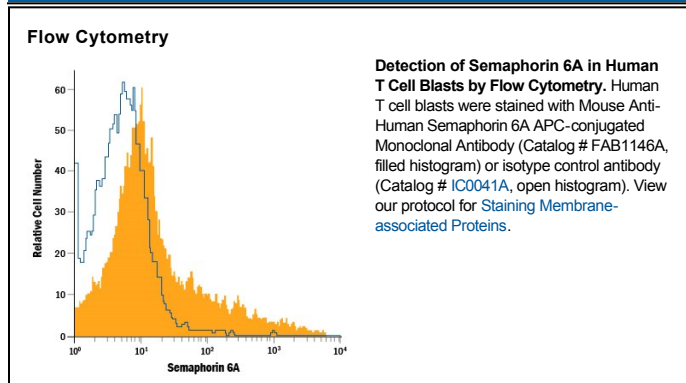
Species Reactivity	Human
Specificity	Detects human Semaphorin 6A in direct ELISAs and Western blots. In direct ELISAs, 100% cross-reactivity with recombinant mouse (rm) Semaphorin 6A is observed and no cross-reactivity with recombinant human (rh) Semaphorin 3A, rhSemaphorin 3B, or rmSemaphorin 3F is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 169203
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 6A Gly19-Thr649 Accession # Q9H2E6
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
Flow Cytometry	10 μ L/10 ⁶ cells	See Below

DATA



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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

The Semaphorins constitute a large family of secreted, glycosylphosphatidylinositol (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 to 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. They are also expressed in non-neuronal tissues and are involved in angiogenesis, hematopoiesis, organogenesis, and the regulation of immune functions (1, 2). Class 6 Semaphorins (Sema 6) are transmembrane proteins that share homology with the axon-guiding insect Sema 1A. Human Sema 6A (Vla) cDNA predicts a 1,030 aa protein comprised of an extracellular domain, a transmembrane domain, and a long cytoplasmic tail (3, 4). A secreted form of Sema 6A can repel sympathetic and dorsal root ganglion axons *in vitro*, indicating a traditional role as an axon guidance signal (5). There is evidence, however, that Sema 6A also functions as a guidance receptor. Sema 6A mutants show a defect in thalamocortical neuron projection that is cell autonomous, and the cytoplasmic tails for Sema 6 contain binding sites for intracellular regulatory molecules such as Evi and Src (6).

References:

1. Fiore, R. and A.W. Puschel (2003) *Frontiers Biosci.* **8**:484.
2. Goshima, Y. *et al.* (2002) *J. Clin. Invest.* **109**:993.
3. Zhou, *et al.* (1997) *Mol. Cell Neurosci.* **9**:26.
4. Kikuchi, K. *et al.* (1999) *Mol. Cell Neurosci.* **13**:9.
5. Xu, X-M. *et al.* (2000) *J. Neurosci.* **20**:2638.
6. Leighton, P.A. *et al.* (2001) *Nature* **410**:174.