Human Semaphorin 3E Antibody

Monoclonal Mouse IgG_1 Clone # 400513

Catalog Number: MAB32391

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Semaphorin 3E in direct ELISAs. In direct ELISAs, approximately 15% cross-reactivity with recombinant human (rh) Semaphorin 3B is observed and no cross-reactivity with rhSemaphorin 6A is observed.
Source	Monoclonal Mouse IgG_1 Clone # 400513
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 3E Thr25-Ser775 (Arg557Ala and Arg560Ala) Accession # O15041
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

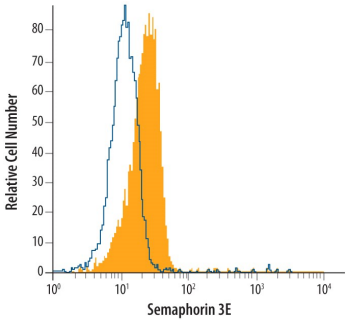
APPLICATIONS

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	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Intracellular Staining by Flow Cytometry



Detection of Semaphorin 3E in Human T Cells by Flow Cytometry. Human T cells were treated for 3-5 days with 1 µg/mL PHA then stained with Mouse Anti-Human Semaphorin 3E Monoclonal Antibody (Catalog # MAB32391, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG $F(ab')_2$ Secondary Antibody (Catalog # F0102B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human Semaphorin 3E Antibody

Monoclonal Mouse IgG_1 Clone # 400513

Catalog Number: MAB32391

BACKGROUND

Semaphorin 3E (Sema3E; previously SemaH) is a 90-95 kDa member of the Class 3 (secreted) semaphorins which, in human, share 40-50% amino acid (aa) sequence identity. Class 3 semaphorins are potent chemorepellents that function in axon guidance and/or vascular tip cell guidance during development (1). Sema3E is highly expressed in developing somites, where it acts as a repulsive cue for PlexinD1-expressing endothelial cells of adjacent intersomitic vessels (2, 3). Crystal structures of semaphorins reveal that the 500 aa N-terminal Sema domain forms a seven-blade β-propeller similar to that found in integrin molecules. This is accompanied by 14 conserved cysteine residues and one or more N-glycosylation sites are thought critical for forming the secondary structure (4). C-terminal to the Sema domain, Sema3E has a consensus sequence for furin cleavage which, when used, creates a 61 kDa form that does not dimerize, and is highly expressed in tumor cell lines with metastatic potential (5, 6). Further C-terminal are a cysteine-knot plexin/semaphorin/integrin (PSI) domain, an Ig-like domain, a cysteine for dimerization and a basic domain containing another furin cleavage site. Dimerization and cleavage at the C-terminal site are required for repulsing activity of class 3 semaphorins (7). Human Sema3E shares 90%, 85% and 57% aa sequence identity with mouse, bovine and canine Sema3E, respectively. Like other semaphorins, Sema3E signaling is transduced by a transmembrane Plexin dimer, which also has a Sema domain and is coupled to kinase pathways. Unlike other Class 3 semaphorins, Sema3E binds directly to its plexin and does not require interaction with a neuropilin for activity (7). Genetic disruption of either Sema3E or PlexinD1 creates mouse mutants with excessive and disorganized vascular growth and branching, indicating the importance of this ligand-receptor pair for vascular guidance (3, 8).

References:

1. Eichmann, A. *et al.* (2005) Genes Dev. **19**:1013.
2. Cohen, S. *et al.* (2005) Eur. J. Neurosci. **21**:1767.
3. Gu, C. *et al.* (2005) Science **307**:265.
4. Gherardi, E. *et al.* (2004) Curr. Opin. Struct. Biol. **14**:669.
5. Christensen, C. *et al.* (1998) Cancer Res. **58**:1238.
6. Christensen, C. *et al.* (2005) Cancer Res. **65**:6167.
7. Adams, R. H. *et al.* (1997) EMBO J. **16**:6077.
8. Gitler, A. D. *et al.* (2004) Dev. Cell **7**:107.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449