Human/Mouse Semaphorin 6B Alexa Fluor® 750-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 254402

Catalog Number: FAB2094S

100 µg

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Semaphorin 6B in direct ELISAs and Western blots. In direct ELISAs and Western blots, 100% cross-reactivity with recombinant mouse (rm) Semaphorin 6B is observed. In direct ELISAs, no cross-reactivity with recom
Source	Monoclonal Mouse IgG_1 Clone # 254402
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 6B Leu26-Ser603 Accession # Q9H3T3
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

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

BACKGROUND

Semaphorin 6B (Sema6B) is a 120 kDa member of the Semaphorin family of axon guidance molecules (1-4). The four known Class 6 semaphorins are type I transmembrane glycoproteins with Sema domains but without other domains, making them most like Class 1 invertebrate semaphorins in structure (1-4). Amino acid (aa) identity of Class 6 semaphorins is around 40% overall, but 53-64% within the Sema domain. Sema6B is expressed developmentally in subregions of the nervous system and muscle, and at low levels in most adult tissues (3, 4). Human Sema6B cDNA encodes a 25 aa signal sequence, a 579 aa extracellular domain (ECD) including the Sema domain, a 20 aa transmembrane sequence and a 263 aa cytoplasmic portion. A cytoplasmic proline-rich sequence interacts with the SH3 domain of the c-src signaling protein (4). Full-length Sema6B is thought to form disulfide-linked homodimers (4). Alternate exon splicing creates a 492 aa (presumably) secreted form (Sema6B.1), and a 657 aa form with a shortened cytoplasmic tail (Sema6B.2) (3). Human Sema6B ECD shows 94%, 94%, 96% and 89% aa identity with corresponding mouse, rat, bovine and canine sequences, respectively. Crystal structures of semaphorins reveal that the 500 aa Sema domain forms an integrin-like seven-blade β-propeller structure stabilized by 14 conserved cysteine residues (5). Sema6B is highly expressed in some glioblastoma and breast cancer cell lines. All-trans retinoic acid slows cancer cell growth and down-regulates Sema6B expression, probably via dimerization with peroxisome proliferator-activated receptors (PPAR) that have a response element on the Sema6B gene (3, 6, 7). Semaphorins transduce signals through transmembrane plexins, either directly, or by binding associated neuropilin receptors. Plexin-A4 binds Sema6A (high affinity) and 6B (low affinity) and mediates sympathetic ganglion axon-repulsion, independent of neuropilin-1 (8).

PRODUCT SPECIFIC NOTICES

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 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475