

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Semaphorin 6C in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human Semaphorin 3A, 3B, 6A, 6B, 6D, 7A, recombinant mouse Semaphorin 3C, 3E, 3F, or 6C is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 254506
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 6C Ala25-Val601 Accession # NP_112175
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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 6C (Sema6C; previously Sema Y) is a 120 kDa member of the Semaphorin family of axon guidance molecules (1 - 3). The four known Class 6 semaphorins are type I transmembrane glycoproteins that exhibit neuropilin-independent binding to specific plexin A receptors (1 - 3). Sema6C is expressed developmentally in subregions of the central and peripheral nervous systems, heart, and kidney, and primarily in skeletal muscle in adults (3, 4). Human Sema6C cDNA encodes 930 aa, including a 24 aa signal sequence, a 579 aa extracellular domain (ECD) including the Sema domain, a 21 aa transmembrane sequence and a 306 aa cytoplasmic portion. Alternate exon splicing creates a 922 aa short form (Sema6C.3) that is lacking aa 184 - 223 within the Sema domain, but contains 32 unique aa inserted after aa 586; postnatally, this form predominates in muscle (2, 3). A 962 aa form contains only the insert. The 930 aa "long form" predominates in brain, especially in areas of increased plasticity (4). Human Sema6C ECD shares 92%, 93%, 94%, 94%, 95% and 87% aa identity with corresponding mouse, rat, porcine, bovine, equine and canine sequences, respectively. Sema6C, along with Sema6D, is co-expressed with and binds to Plexin A1 (5). This interaction is thought to guide proprioceptive peripheral neurons by repulsion, excluding them from the superficial dorsal horn of the spinal cord (5). Sema6C is down-regulated and redistributed following denervation or axotomy, potentially promoting regrowth (4, 6). In muscle, Sema6C is concentrated at neuromuscular junctions (6).

PRODUCT SPECIFIC NOTICES

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