

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse Semaphorin 6C in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human (rh) Semaphorin 6B and rhSemaphorin 6D is observed, 5% cross-reactivity with rhSemaphorin 6A                  |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse Semaphorin 6C<br>Ala26-Ile602<br>Accession # Q9WTM3                                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | 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 are most like Class 1 invertebrate semaphorins in structure, and exhibit neuropilin-independent binding to specific plexin A receptors (1-3). Amino acid (aa) identity of Class 6 semaphorins is around 40% overall, but 53-64% within the Sema domain. 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). Mouse Sema6C cDNA encodes 931 aa, including a 25 aa signal sequence, a 580 aa extracellular domain (ECD) including the Sema domain, a 21 aa transmembrane sequence and a 305 aa cytoplasmic portion. Alternate exon splicing creates a 923 aa short form (Sema6C.3) that is lacking aa 185-224 within the Sema domain, but contains 32 unique aa inserted at aa 586; postnatally, this form predominates in muscle (2, 3). The long form predominates in brain, especially in areas of increased plasticity (4). Mouse Sema6C ECD shares 98%, 92%, 92%, 92%, and 88% aa sequence identity with corresponding rat, human, porcine, 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 downregulated 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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