Human Semaphorin 3C Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 757820

Catalog Number: FAB5570U

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Semaphorin 3C in direct ELISAs. In direct ELISAs, 100% cross-reactivity with recombinant mouse Semaphorin 3C and no cross-reactivity with recombinant human Semaphorin 3A, 3B, 3D, or 3F is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 757820
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 3C Gly21-Ser738 Accession # Q99985
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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.*

Immunocytochemistry	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 3C (Sema3C; previously semaE) is one of six Class 3 secreted semaphorins which share 40-50% amino acid (aa) identity. Class 3 semaphorins are potent chemorepellents that function in axon and/or vascular guidance during development, and may be upregulated in tumor progression (1, 2). The 751 amino acid (aa) mouse Sema3C is highly modular. It contains a 20 aa signal sequence, an ~500 aa N-terminal Sema domain that forms a β-propeller structure similar to that found in integrin molecules, a cysteine knot, a furin-type cleavage site, an Ig-like domain, and a C-terminal basic domain (1-3). Covalent dimerization plus cleavage at the C-terminus are required for activity of class 3 semaphorins (4). Mouse Sema3C shares at least 95% aa identity with human, rat, cow and dog Sema3C, and 89% and 75% aa identity with chick and zebrafish Sema3C, respectively. Type 3 semaphorins transduce signals through transmembrane plexins, either directly or by binding associated neuropilin receptors (1, 2). Sema3C signaling is transduced by Plexin-D1 indirectly via Neuropilin-1 or Neuropilin-2 receptors (5). Sema3C is expressed in all somitic motor neurons, in lung buds and in cardiac neural crest cells during development (1, 5-8). Sema3C activates integrins in certain cells so, in addition to its repulsive activities, it sometimes acts as a chemoattractant (6, 9). In the developing nervous system, this chemoattraction appears to complement Sema3A repulsion in adjacent cell layers (1, 6, 7). Sema3C also provides an attractive force opposing Sema6A and Sema6B to guide migration of neural crest endothelial cells to the cardiac outflow tract (10). Consequently, defects in aortic arch formation occur when Sema3C or Plexin-D1 genes or Sema3C-neuropilin interactions are disrupted (5, 11, 12).

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