

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human Semaphorin 3E in direct ELISAs and Western blots. In direct ELISAs, less than 10% cross-reactivity with recombinant human (rh) Semaphorin 3A, rhSemaphorin 3C, rhSemaphorin 3F, and rhSemaphorin 3G is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Semaphorin 3E Thr25-Ser775 (Arg557Ala and Arg560Ala) Accession # O15041
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	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 3E (Sema3E; previously SemaH) is one of six Class 3 (secreted) semaphorins which in the human share 40-50% amino acid (aa) 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 by a subset of motor neurons 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 b-propeller similar to that found in integrin molecules; 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 61kDa 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 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 identity with mouse, cow and dog 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).

PRODUCT SPECIFIC NOTICES

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