**BACKGROUND**

Semaphorins are a family of cell surface and secreted proteins that are conserved from insects to humans. Members of this family of proteins are approximately 750 amino acids in length (including signal sequences) and are defined by a conserved extracellular "semaphorin" domain of approximately 500 amino acids containing 14-16 cysteines, blocks of conserved sequences and no obvious repeats. Secreted and cell-bound semaphorins chemically attract and repel the growth of neural axons, guiding the development of intricate networks of neural tissue. SEMA3A (semaphorin-3A), also known as SEMA1, SEMAD, SEMAL, col1-1, Hsema-I, SEMAll or Hsema-III, is a 771 amino acid secreted protein that belongs to the semaphorin family and can function as both a chemotactic agent or a chemorepulsive agent. SEMA3A binds neuropilin and is able to induce the collapse and paralysis of neuronal growth cones. SEMA3A contains one immunoglobulin-like (Ig-like) domain, one PSI domain and one semaphorin domain.

**CHROMOSOMAL LOCATION**

Genetic locus: SEMA3A (human) mapping to 7q21.11, SEMA3B (human) mapping to 3p21.31; Sema3a (mouse) mapping to 5A1, Sema3b (mouse) mapping to 9F1.

**SOURCE**

SEMA3A (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SEMA3A of human origin.

**PRODUCT**

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1146 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

SEMA3A (C-17) is recommended for detection of SEMA3A and SEMA3B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SEMA3A (C-17) is also recommended for detection of SEMA3A and SEMA3B in additional species, including equine, canine, bovine and avian.

Molecular Weight of proSEMA3A: 125 kDa.

Molecular Weight of activated SEMA3A: 95 kDa.

Molecular Weight of SEMA3A proteolytic fragments: 65/45 kDa.


**STORAGE**

Store at 4° C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**DATA**

**SELECT PRODUCT CITATIONS**


**PROTOCOLS**

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

**MONOS Satisfaction Guaranteed**

Try SEMA (A-12): sc-74554, our highly recommended monoclonal alternative to SEMA3A (C-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see SEMA (A-12): sc-74554.