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, coll-1, Hsense-I, SEMAII or Hsense-III, is a 771 amino acid secreted protein that belongs to the semaphorin family and can function as both a chemoattractive 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.

REFERENCES

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

SOURCE
SEMA3A (H-130) is a rabbit polyclonal antibody raised against amino acids 642-771 mapping at the C-terminus of Semaphorin 3A of human origin.

PRODUCT
Each vial contains 200 µg IgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

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

APPLICATIONS
SEMA3A (H-130) is recommended for detection of precursor and mature forms of SEMA3A, and to a lesser extent, SEMA3B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 (H-130) is also recommended for detection of precursor and mature forms of SEMA3A, and to a lesser extent, SEMA3B in additional species, including equine, canine, bovine, porcine and avian. Molecular Weight of proSEMA3A: 125 kDa.
Molecular Weight of activated SEMA3A: 95 kDa.
Positive Controls: Rat brain extract: sc-2392.

DATA
Molecular weight of SEMA3A: 125 kDa.
Molecular weight of activated SEMA3A: 95 kDa.

SELECT PRODUCT CITATIONS

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

Try SEMA (A-12): sc-74554, our highly recommended monoclonal alternative to SEMA3A (H-130). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see SEMA (A-12): sc-74554.