

# SEMA3C (N-20): sc-27796

## BACKGROUND

SEMA3C (also designated Semaphorin 3C, Semaphorin E, SEMAE, SemE, sema domain, immunoglobulin domain (Ig) and short basic domain, secreted) is an ubiquitous protein of approximately 70 kDa that mediates axonal guidance, repulsive gradients, induction of growth cone collapse and cell survival/death. Secreted SEMA3C favors survival and neuritogenesis of cultured cerebellar granule neurons (CGNs). SEMA3C from macrophages and fibroblasts that selectively directs against sympathetic nerve fibers may be one element responsible for reduced sympathetic innervation in rheumatoid arthritis tissue. SEMA3C mutant mice die within hours after birth from congenital cardiovascular defects consisting of interruption of the aortic arch and improper septation of the cardiac outflow tract. SEMA3C is expressed in the cardiac outflow tract as neural crest cells and promotes crest cell migration into the proximal cardiac outflow tract. Semaphorins constitute a family of molecules sharing a common extracellular domain (Semaphorin domain). The family includes several types of secreted and membrane-associated molecules that are grouped into eight subclasses (subclasses 1-7 and viral Semaphorins).

## REFERENCES

1. Kolodkin, A.L., et al. 1993. The Semaphorin genes encode a family of transmembrane and secreted growth cone guidance molecules. *Cell* 75: 1389-1399.
2. Puschel, A.W., et al. 1995. Murine Semaphorin D/Collapsin is a member of a diverse gene family and creates domains inhibitory for axonal extension. *Neuron* 14: 941-948.
3. Dodd, J., et al. 1995. Axon guidance: a compelling case for repelling growth cones. *Cell* 81: 471-474.
4. Matthes, D.J., et al. 1995. Semaphorin II can function as a selective inhibitor of specific synaptic arborizations. *Cell* 81: 631-639.
5. Messersmith, E.K., et al. 1995. Semaphorin III can function as a selective chemorepellent to pattern sensory projections in the spinal cord. *Neuron* 14: 949-959.
6. Wright, D.E., et al. 1995. The guidance molecule Semaphorin III is expressed in regions of spinal cord and periphery avoided by growing sensory axons. *J. Comp. Neurol.* 361: 321-333.

## CHROMOSOMAL LOCATION

Genetic locus: SEMA3C (human) mapping to 7q21-q31; Sema3c (mouse) mapping to 5 A3.

## SOURCE

SEMA3C (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SEMA3C 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.

Blocking peptide available for competition studies, sc-27796 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SEMA3C (N-20) is recommended for detection of precursor and mature SEMA3C 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SEMA3C siRNA (h): sc-44091 and SEMA3C siRNA (m): sc-44381.

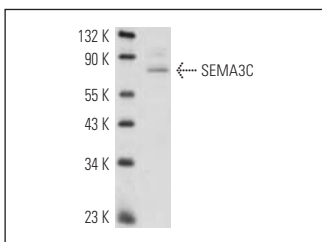
Molecular Weight of SEMA3C: 70 kDa.

Positive Controls: rat brain extract: sc-2392.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



SEMA3C (N-20): sc-27796. Western blot analysis of SEMA3C expression in rat brain tissue extract.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.