# SANTA CRUZ BIOTECHNOLOGY, INC.

# SEMA4C (37): sc-136445



#### BACKGROUND

Semaphorins are a family of cell surface and secreted proteins that are conserved from insects to humans. Members of this family are defined by a conserved extracellular sema 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. SEMA4C (semaphorin-4C), also known as SEMAF, is an 833 amino acid single-pass type I membrane protein that contains one sema domain, one PSI domain and one Ig-like C2-type domain. Expressed in a variety of tissues, including lung, kidney and brain, SEMA4C interacts with GIPC and NCDN and is thought to play a role in the formation of neural networks during development.

## **CHROMOSOMAL LOCATION**

Genetic locus: SEMA4C (human) mapping to 2q11.2; Sema4c (mouse) mapping to 1 B.

# SOURCE

SEMA4C (37) is a mouse monoclonal antibody raised against amino acids 400-510 of SEMA4C of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  IgG\_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SEMA4C (37) is available conjugated to agarose (sc-136445 AC), 500  $\mu$ g/ 0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136445 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA.

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## **PROTOCOLS**

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

### **APPLICATIONS**

SEMA4C (37) is recommended for detection of SEMA4C of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for SEMA4C siRNA (h): sc-94903, SEMA4C siRNA (m): sc-153334, SEMA4C shRNA Plasmid (h): sc-94903-SH, SEMA4C shRNA Plasmid (m): sc-153334-SH, SEMA4C shRNA (h) Lentiviral Particles: sc-94903-V and SEMA4C shRNA (m) Lentiviral Particles: sc-153334-V.

Molecular Weight of SEMA4C: 100 kDa.

Positive Controls: SW-13 cell lysate: sc-24778.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

#### DATA





SEMA4C (37): sc-136445. Western blot analysis of SEMA4C expression in SW-13 whole cell lysate.

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# SELECT PRODUCT CITATIONS

- Li, J., et al. 2015. MiR-138 inhibits cell proliferation and reverses epithelialmesenchymal transition in non-small cell lung cancer cells by targeting GIT1 and SEMA4C. J. Cell. Mol. Med. 19: 2793-2805.
- Gurrapu, S., et al. 2018. Sema4C/PlexinB2 signaling controls breast cancer cell growth, hormonal dependence and tumorigenic potential. Cell Death Differ. 25: 1259-1275.
- 3. Gurrapu, S., et al. 2019. Reverse signaling by semaphorin 4C elicits SMAD1/5- and ID1/3-dependent invasive reprogramming in cancer cells. Sci. Signal. 12: eaav2041.
- Smeester, B.A., et al. 2020. SEMA4C is a novel target to limit osteosarcoma growth, progression, and metastasis. Oncogene 39: 1049-1062.
- Peng, J., et al. 2021. Sema4C modulates the migration of primary tumorassociated lymphatic endothelial cells via an ERK-mediated pathway. Exp. Ther. Med. 22: 1102.
- Chen, D., et al. 2023. Semaphorin 4C regulates ovarian steroidogenesis through RHOA/ROCK1-mediated actin cytoskeleton rearrangement. Mol. Hum. Reprod. 29: gaad010.
- Hsu, Y.H., et al. 2023. Using brain cell-type-specific protein interactomes to interpret neurodevelopmental genetic signals in schizophrenia. iScience 26: 106701.
- 8. Huang, Y., et al. 2023. Circ-POLA2-mediated miR-138-5p/SEMA4C axis affects colon cancer cell activities. Acta Biochim. Pol. 70: 517-523.

## **RESEARCH USE**

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