

SEMA7A (D-4): sc-376149

BACKGROUND

Semaphorins comprise 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, many blocks of conserved sequences and no obvious repeats. The transmembrane semaphorins are characterized by an additional 80 amino acid transmembrane domain and an 80-110 amino acid cytoplasmic domain. These semaphorin proteins regulate the growth of the axons during embryogenesis by repelling growth cones from regions of high semaphorin expression. Also designated CD108, Semaphorin 7A (SEMA7A) promotes axonal growth in the central nervous system and plays a critical role in negative regulation of T cell activation and function.

REFERENCES

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- Angelisova, P., et al. 1999. Characterization of the human leukocyte GPI-anchored glycoprotein CDw108 and its relation to other similar molecules. *Immunobiology* 200: 234-245.
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- Holmes, S., et al. 2002. Sema7A is a potent monocyte stimulator. *Scand. J. Immunol.* 56: 270-275.
- Elhabazi, A., et al. 2003. Structure and function of the immune semaphorin CD100/SEMA4D. *Crit. Rev. Immunol.* 23: 65-81.
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- Maurin, J.C., et al. 2005. Odontoblast expression of semaphorin 7A during innervation of human dentin. *Matrix Biol.* 24: 232-238.
- Delorme, G., et al. 2005. Expression and function of semaphorin 7A in bone cells. *Biol. Cell* 97: 589-597.

CHROMOSOMAL LOCATION

Genetic locus: SEMA7A (human) mapping to 15q24.1; Sema7a (mouse) mapping to 9 B.

SOURCE

SEMA7A (D-4) is a mouse monoclonal antibody raised against amino acids 371-411 mapping within an internal region of SEMA7A of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SEMA7A (D-4) is recommended for detection of SEMA7A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 SEMA7A siRNA (h): sc-63010, SEMA7A siRNA (m): sc-63011, SEMA7A shRNA Plasmid (h): sc-63010-SH, SEMA7A shRNA Plasmid (m): sc-63011-SH, SEMA7A shRNA (h) Lentiviral Particles: sc-63010-V and SEMA7A shRNA (m) Lentiviral Particles: sc-63011-V.

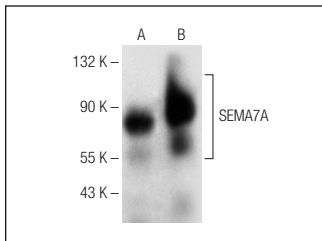
Molecular Weight of SEMA7A: 80 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, JAR cell lysate: sc-2276 or ES-2 cell lysate: sc-24674.

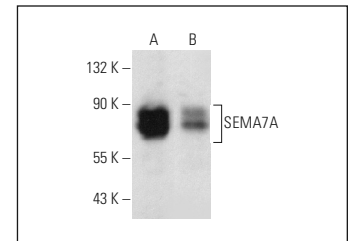
RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, UltraCruz® 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SEMA7A (D-4): sc-376149. Western blot analysis of SEMA7A expression in JAR (A) and ES-2 (B) whole cell lysates.



SEMA7A (D-4): sc-376149. Western blot analysis of SEMA7A expression in ES-2 (A) and C6 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Guo, Y.E., et al. 2014. Alternative capture of noncoding RNAs or protein-coding genes by herpesviruses to alter host T cell function. *Mol. Cell* 54: 67-79.

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.