

SEMA7A (C-6): sc-374432

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. Semaphorin 7A (SEMA7A), also designated CD108, promotes axonal growth in the central nervous system and plays a critical role in negative regulation of T cell activation and function.

CHROMOSOMAL LOCATION

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

SOURCE

SEMA7A (C-6) 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 IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SEMA7A (C-6) is available conjugated to agarose (sc-374432 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374432 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374432 PE), fluorescein (sc-374432 FITC), Alexa Fluor® 488 (sc-374432 AF488), Alexa Fluor® 546 (sc-374432 AF546), Alexa Fluor® 594 (sc-374432 AF594) or Alexa Fluor® 647 (sc-374432 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374432 AF680) or Alexa Fluor® 790 (sc-374432 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SEMA7A (C-6) 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), 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).

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.

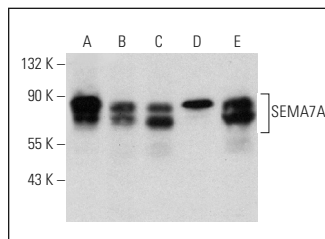
Molecular Weight of SEMA7A: 80 kDa.

Positive Controls: JAR cell lysate: sc-2276, C2C12 whole cell lysate: sc-364188 or Sol8 cell lysate: sc-2249.

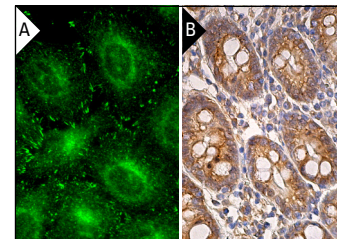
STORAGE

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

DATA



SEMA7A (C-6): sc-374432. Western blot analysis of SEMA7A expression in JAR (A), Sol8 (B), C2C12 (C), L8 (D) and C6 (E) whole cell lysates.



SEMA7A (C-6): sc-374432. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Saben, J., et al. 2014. A comprehensive analysis of the human placenta transcriptome. *Placenta* 35: 125-131.
- Nakahara, S., et al. 2015. Mossy fiber mis-pathfinding and semaphorin reduction in the hippocampus of α -CaMKII hKO mice. *Neurosci. Lett.* 598: 47-51.
- Köhler, D., et al. 2020. Red blood cell-derived semaphorin 7A promotes thrombo-inflammation in myocardial ischemia-reperfusion injury through platelet GPIb. *Nat. Commun.* 11: 1315.
- Campos, R.K., et al. 2020. Ribosomal stalk proteins RPLP1 and RPLP2 promote biogenesis of flaviviral and cellular multi-pass transmembrane proteins. *Nucleic Acids Res.* 48: 9872-9885.
- Borges, V.F., et al. 2020. Semaphorin 7A is a biomarker for recurrence in postpartum breast cancer. *NPJ Breast Cancer* 6: 56.
- Crump, L.S., et al. 2021. Hormonal regulation of semaphorin 7A in ER⁺ breast cancer drives therapeutic resistance. *Cancer Res.* 81: 187-198.

RESEARCH USE

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

PROTOCOLS

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

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