

UNC5H3 (F-4): sc-515678

BACKGROUND

The UNC5H family of proteins act as transmembrane receptors for netrin-1 and play a crucial role in axon guidance and migration of neural cells. Additionally, UNC5H receptors induce apoptosis when cleaved by a caspase, producing an intracellular fragment containing a death domain. This activity is blocked by the binding of netrin-1. In the absence of netrin-1, UNC5H receptors act as tumor suppressors by inhibiting anchorage-independent growth and invasion, but mutation of these receptors provides a potential mechanism for tumorigenicity. The expression of UNC5H receptors is down-regulated in multiple cancers, including colorectal, breast, ovary, uterus, stomach, lung, and kidney cancers. UNC5H3, also known as UNC5C, plays an important role in the development of spinal accessory motor neurons. It is also involved in mediating the repulsive action for netrin-1 and it serves as a stop signal for migratory cells.

REFERENCES

1. Llambi, F., et al. 2001. Netrin-1 acts as a survival factor via its receptors UNC5H and DCC. *EMBO J.* 20: 2715-2722.
2. Komatsuzaki, K., et al. 2002. Modulation of G_iα₂ signaling by the axonal guidance molecule Unc5H2. *Biochem. Biophys. Res. Commun.* 297: 898-905.
3. Thiebault, K., et al. 2003. The netrin-1 receptors UNC5H are putative tumor suppressors controlling cell death commitment. *Proc. Natl. Acad. Sci. USA* 100: 4173-4178.
4. Kruger, R.P., et al. 2004. Mapping netrin receptor binding reveals domains of Unc5 regulating its tyrosine phosphorylation. *J. Neurosci.* 24: 10826-10834.
5. Kuramoto, T., et al. 2004. Rat neurological mutations cerebellar vermis defect and hobble are caused by mutations in the netrin-1 receptor gene UNC5H3. *Brain Res. Mol. Brain Res.* 122: 103-108.
6. Klar, J., et al. 2005. RAR-related orphan receptor A isoform 1 (RORα1) is disrupted by a balanced translocation t(4;15)(q22.3;q21.3) associated with severe obesity. *Eur. J. Hum. Genet.* 13: 928-934.
7. Dillon, A.K., et al. 2007. UNC5C is required for spinal accessory motor neuron development. *Mol. Cell. Neurosci.* 35: 482-489.
8. Matilainen, T., et al. 2007. Analysis of netrin-1 receptors during inner ear development. *Int. J. Dev. Biol.* 51: 409-414.

CHROMOSOMAL LOCATION

Genetic locus: UNC5C (human) mapping to 4q22.3; Unc5c (mouse) mapping to 3 H1.

SOURCE

UNC5H3 (F-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 516-537 within a cytoplasmic domain of UNC5H3 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UNC5H3 (F-4) is available conjugated to agarose (sc-515678 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515678 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515678 PE), fluorescein (sc-515678 FITC), Alexa Fluor® 488 (sc-515678 AF488), Alexa Fluor® 546 (sc-515678 AF546), Alexa Fluor® 594 (sc-515678 AF594) or Alexa Fluor® 647 (sc-515678 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515678 AF680) or Alexa Fluor® 790 (sc-515678 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

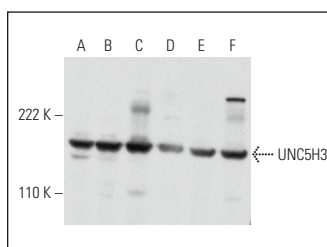
UNC5H3 (F-4) is recommended for detection of UNC5H3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 UNC5H3 siRNA (h): sc-72284, UNC5H3 siRNA (m): sc-72285, UNC5H3 shRNA Plasmid (h): sc-72284-SH, UNC5H3 shRNA Plasmid (m): sc-72285-SH, UNC5H3 shRNA (h) Lentiviral Particles: sc-72284-V and UNC5H3 shRNA (m) Lentiviral Particles: sc-72285-V.

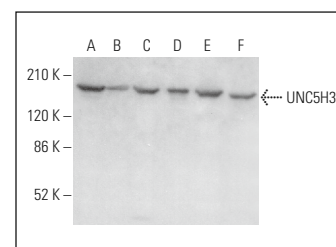
Molecular Weight of UNC5H3: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

DATA



UNC5H3 (F-4): sc-515678. Western blot analysis of UNC5H3 expression in HeLa (A), Jurkat (B), K-562 (C), COLO 205 (D), Hep G2 (E) and SH-SY5Y (F) whole cell lysates.



UNC5H3 (F-4): sc-515678. Western blot analysis of UNC5H3 expression in K-562 (A), BT-20 (B), Neuro-2A (C), 3T3-L1 (D), C6 (E) and KNRK (F) whole cell lysates.

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.