

UNC5H4 (4G3): sc-517085

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, when cleaved by a caspase to produce an intracellular fragment containing a death domain, UNC5H receptors induce apoptosis. 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 carcinomas, including colorectal, breast, ovary, uterus, stomach, lung, and kidney cancers. UNC5H4, also known as UNC5D (unc-5 homolog D), is single-pass type I membrane protein that is a member of the UNC5H netrin receptor family. Two isoforms of UNC5H4 exist due to alternative splicing events.

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 $G_i \alpha_2$ 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 (RORa1) 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.
9. Schmid, T., et al. 2007. NSCL-1 and -2 control the formation of precerebellar nuclei by orchestrating the migration of neuronal precursor cells. *J. Neurochem.* 102: 2061-2072.

CHROMOSOMAL LOCATION

Genetic locus: UNC5D (human) mapping to 8p12.

SOURCE

UNC5H4 (4G3) is a mouse monoclonal antibody raised against amino acids 31-130 representing partial length UNC5H4 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

UNC5H4 (4G3) is recommended for detection of UNC5H4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

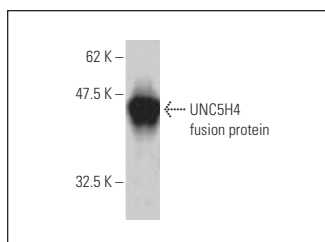
Suitable for use as control antibody for UNC5H4 siRNA (h): sc-63187, UNC5H4 shRNA Plasmid (h): sc-63187-SH and UNC5H4 shRNA (h) Lentiviral Particles: sc-63187-V.

Molecular Weight of UNC5H4: 106 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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).

DATA



UNC5H4 (4G3): sc-517085. Western blot analysis of human recombinant UNC5H4 fusion protein.

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 for detailed protocols and support products.