

UNC5H2 (1A9): sc-293240

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. In fact, UNC5H receptors express widely in cells that migrate, where they bind the G protein $G_{\alpha_{i-2}}$ to inhibit G protein signaling. Additionally, UNC5H receptors induce apoptosis when cleaved by a caspase, producing an intracellular fragment containing a death domain, but this activity is blocked by the binding of netrin-1. The expression of UNC5H receptors is down-regulated in multiple cancers, including colorectal, breast, ovary, uterus, stomach, lung, and kidney cancers. Hence, 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. UNC5H2, also designated unc-5 homolog B or p53-regulated receptor for death and life protein 1 (p53RDL1) is highly expressed in brain with lower levels of expression observed in developing lung, cartilage, kidney and hematopoietic and immune tissues.

REFERENCES

- Leonardo, E.D., et al. 1997. Vertebrate homologues of *C. elegans* UNC-5 are candidate netrin receptors. *Nature* 386: 833-838.
- Llambi, F., et al. 2001. Netrin-1 acts as a survival factor via its receptors UNC5H and DCC. *EMBO J.* 20: 2715-2722.
- 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.
- 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.
- Tanikawa, C., et al. 2003. p53RDL1 regulates p53-dependent apoptosis. *Nat. Cell Biol.* 5: 216-223.
- Lu, X., et al. 2004. The netrin receptor UNC5B mediates guidance events controlling morphogenesis of the vascular system. *Nature* 432: 179-186.

CHROMOSOMAL LOCATION

Genetic locus: UNC5B (human) mapping to 10q22.1.

SOURCE

UNC5H2 (1A9) is a mouse monoclonal antibody raised against amino acids 27-126 of UNC5H2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

UNC5H2 (1A9) is recommended for detection of UNC5H2 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).

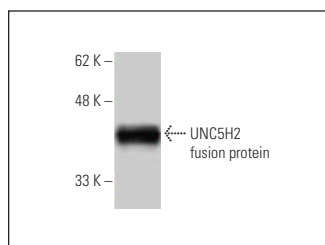
Suitable for use as control antibody for UNC5H2 siRNA (h): sc-61846, UNC5H2 shRNA Plasmid (h): sc-61846-SH and UNC5H2 shRNA (h) Lentiviral Particles: sc-61846-V.

Molecular Weight of UNC5H2: 100 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, 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).

DATA



UNC5H2 (1A9): sc-293240. Western blot analysis of human recombinant UNC5H2 fusion protein.

PROTOCOLS

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