SANTA CRUZ BIOTECHNOLOGY, INC.

UNC5H2 (N-19): sc-28047

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The Power to Question

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 $G_{\alpha\ i\text{-}2}$ 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 downregulated 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

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. Mehlen, P., et al. 2003. The dependence receptors DCC and UNC5H as a link between neuronal guidance and survival. Biol. Cell. 95: 425-436.
5. Williams, M.E., et al. 2003. Surface expression of the netrin receptor UNC5H1 is regulated through a protein kinase C-interacting protein/protein kinase-dependent mechanism. J. Neurosci. 23: 11279-11288.

CHROMOSOMAL LOCATION

Genetic locus: UNC5B (human) mapping to 10q22.1; Unc5b (mouse) mapping to 10 B4.

SOURCE

UNC5H2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UNC5H2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-28047 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

UNC5H2 (N-19) is recommended for detection of UNC5H2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

UNC5H2 (N-19) is also recommended for detection of UNC5H2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UNC5H2 siRNA (h): sc-61846, UNC5H2 siRNA (m): sc-61847, UNC5H2 shRNA Plasmid (h): sc-61846-SH, UNC5H2 shRNA Plasmid (m): sc-61847-SH, UNC5H2 shRNA (h) Lentiviral Particles: sc-61846-V and UNC5H2 shRNA (m) Lentiviral Particles: sc-61847-V.

Molecular Weight of UNC5H2: 100 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Dakouane-Giudicelli, M., et al. 2010. Characterization and expression of netrin-1 and its receptors UNC5B and DCC in human placenta. J. Histochem. Cytochem. 58: 73-82.
2. Dakouane-Giudicelli, M., et al. 2011. Hypoxia-inducible factor 1 controls the expression of the uncoordinated-5-B receptor, but not of netrin-1, in first trimester human placenta. Int. J. Dev. Biol. 55: 981-987.

RESEARCH USE

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