Rat UNC5H2/UNC5B Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1006

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat UNC5H2 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat UNC5H2 Gly27-Asp373 Accession # O08722
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

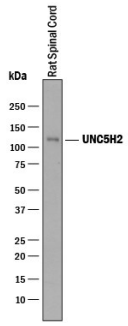
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.25 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	Immersion fixed frozen sections of rat brain

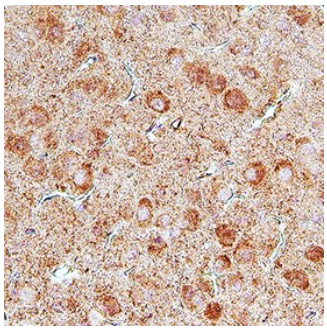
DATA

Western Blot



Detection of Rat UNC5H2 by Western Blot. Western blot shows lysates of rat spinal cord tissue. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Rat UNC5H2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1006) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for UNC5H2 at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



UNC5H2/UNC5B in Rat Brain. UNC5H2/UNC5B was detected in perfusion fixed paraffin-embedded sections of rat brain using Goat Anti-Rat UNC5H2/UNC5B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1006) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal cell bodies.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Rat UNC5H2/UNC5B Antibody

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BACKGROUND

Caenorhabditis elegans UNC5 (UNC = behaviorally uncoordinated) and its mammalian homologues (including rat UNC5H1 and H2, mouse UNC5H2 and H3 (also known as rostral cerebellar malformation, RCM), and human UNC5H3 and H4) are transmembrane proteins belonging to the immunoglobulin (Ig) superfamily. All UNC5 family members have two Ig and two thrombospondin type 1 domains in their extracellular regions, as well as a conserved ZU-5 domain, a DCC (Deleted in Colorectal Cancer)-binding domain (DB) and a C-terminal death domain (DD) in their cytoplasmic regions (1, 2).

UNC5 family proteins are receptors for the netrin/UNC6 (netr: Sanskrit for “one who guides”) family of secreted axon guidance cues that are laminin-related proteins. Netrin family proteins can act as a chemoattractant for some axons and as a chemorepellent for others. Besides UNC5, netrin family proteins also bind to the DCC family of type I transmembrane receptors that share sequence similarity with proteins of the NCAM family, and adenosine A2b receptor, a G protein-coupled seven-transmembrane receptor belonging to the adenosine receptor family (3, 4). *In vitro*, netrin binding to DCC family receptors in the absence of UNC5 is associated with axon attraction. However, the DCC-mediated attraction to netrin is converted to repulsion by binding of UNC5 to the DCC-netrin complex. *In vivo,* the mechanisms of netrin-dependent axon attraction and repulsion are more complex and may include UNC5-mediated repulsion that is independent of DCC (1, 5). Besides their roles in axon guidance and neuronal migration, the UNC5 and DCC families also act as dependence receptors and exert pro-apoptotic effects in the absence of netrin (6).

Rat UNC5H2 cDNA encodes a 945 amino acid residues (aa) type I membrane protein with a putative 26 aa signal peptide and 347 aa extracellular domain. The extracellular domain of rat UNC5H2 shares approximately 65%, 73% and 73% aa sequence similarity with that of rat UNC5H1, human UNC5H3 and mouse UNC5H3, respectively.

References:

1. Hong, K. *et al.* (1999) Cell **97**:927.
2. Leonardo, E.D. *et al.* (1997) Nature **386**:833.
3. Culotti, J.B. and D.C. Merz (1998) Curr. Opin. Cell Biol. **10**:609.
4. Corset, V. (2000) Nature **407**:747.
5. Merz, D.C. (2001) Genetics **158**:1071.
6. Llambi, F. *et al.* (2001) EMBO J. **20**:2715.

PRODUCT SPECIFIC NOTICES

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U.S. Patent # 5,939,271, 6,277,585, and other U.S. and international patents pending.

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