

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat UNC5H2 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant rat UNC5H1 or recombinant human UNC5H4 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 187305
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat UNC5H2 Gly27-Asp373 Accession # O08722
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 (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.

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