

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human Gephyrin/GPHN in direct ELISAs and human and mouse Gephyrin/GPHN Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 807423
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Gephyrin/GPHN Ala2-Ser188 Accession # Q9NQX3
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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.
Immunohistochemistry	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

Gephyrin (GPHN, from γεφυρα, the Greek word for bridge; also known as molybdopterin adenylyltransferase) is a 90-94 kDa member of both the MoaB and MoaA families of proteins. It has limited expression, being found in hepatocytes and neurons. In neurons, gephyrin is a postsynaptic density cytoplasmic protein that interacts with the subunits of glycine and GABA-A receptors. This interaction is mediated by the ability of gephyrin to form hexameric lattices that act as scaffolds that link the subunits of the two inhibitory receptors to the cell's underlying tubulin network. In addition, the gephyrin lattice may also interact with NLG-1 and -2, suggesting a role for gephyrin in the regulation of glutamatergic synapses. Gephyrin is also known to participate in the synthesis of molybdenum cofactor. This cofactor binds molybdenum, making it available to sulfite and aldehyde reductase. Human gephyrin is 736 amino acids (aa) in length. It contains a 181 aa N-terminal G-domain that possesses MPT Mo-transferase activity (aa 14-166) and a homotrimer interface motif, followed by a 420 aa C-terminal region (aa 319-738) that contains an MPT adenylyltransferase domain (aa 326-736) with an embedded homodimerization motif. There are at least five utilized Ser/Thr phosphorylation sites. Multiple splice variants exist, and represent peptide insertions at multiple sites. There is a 13 aa insertion after Glu98, a 33 aa insertion after Ser243, and 15, 19, 21 and 24 aa insertions after Lys288. Over aa 2-188, human and mouse Gephyrin are identical in amino acid sequence.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.