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Monoclonal Antibody to DLG4 / PSD95 - Purified

Alternate names: DLGH4, Disks large homolog 4, PSD-95, Postsynaptic density protein 95, SAP-90, SAP90, Synapse-associated protein 90

Catalog No.: AM50562PU-N

Quantity: 0.1 mg

Concentration: lot-specific

Background: The MAGUKs are membrane-associated guanylate kinase related (MAGUK) proteins that are defined by their inclusion of PDZ, SH3 and GUK domains. The GUK domain that they have is structurally very similar to that of the guanylate kinases, which converts ATP into ADP. However, it is known to be catalytically inactive as the P-Loop which normally binds ATP is absent. It is thought that the MAGUKs have adopted the GUK domain for their own purposes, primarily based on its ability to form protein-protein interactions with cytoskeleton proteins, microtubule/actin based machinery and molecules involved in signal transduction. In addition many of the MAGUK proteins also contain regions homologous of CaMKII, WW and L27 domains. Some of the members of the MAGUK family of proteins include DLG4 (Disks large homolog 4), DLG2, PSD95, MPP1 and other cytoskeleton-interacting proteins.

Uniprot ID: P78352

NCBI: NP_001356.1

GeneID: 1742

Host / Isotype: Mouse / IgG1

Recommended Isotype Controls: SM10P (for use in human samples), SM20P (for use in rat samples), AM03095PU-N

Clone: K28/86

Immunogen: Recombinant protein corresponding to a fusion domain of human PSD95/SAP90 proteins.

Format:
State: Liquid purified Ig fraction
Purification: Protein G Chromatography
Buffer System: 0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl with 0.05% sodium azide.

Applications:
Immunoprecipitation: A previous lot of this antibody was successfully used by an independent laboratory in IP. (Rasband, M., et al. (2002). The Journal of Cell Biology. 159(4):663–672.)
Immunohistochemistry: 1:500 dilution from a previous lot detected the MAGUK family of proteins in rat cerebellum and rat hypothalamus tissues.
Western Blot: 0.5 µg/mL of this antibody detected members of the MAGUK protein family on 10 µg of rat brain tissue lysate.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody exhibits cross reactivity against recombinant Chapsyn-110, SAP97, and SAP102. (UC Davis/NIH NeuroMab Facility, http://neuromab.ucdavis.edu) Demonstrated to react with rat. Predicted to react with human based on immunogen design. Predicted to react with mouse based on 100% sequence homology.

Storage: Store undiluted at 2-8°C.
Shelf life: one year from despatch.

Pictures: Immunohistochemistry Analysis:
Representative lot data.
Paraffin-embedded rat cerebellum (Fig. 1) and rat hypothalamus (Fig. 2) tissues were prepared using heat-induced epitope retrieval in citrate buffer, pH 6.0. Immunostaining was performed using a 1:500 dilution of Cat. No. AM50562PU-N, anti-pan-MAGUK, clone K28/86. Reactivity was detected using the IHC-Select® Detection Kit. Staining pattern appears to be restricted to the purkinje cells (granular layer junction) in Fig. 1. In Fig. 2, the staining pattern appears to be cytoplasmic.

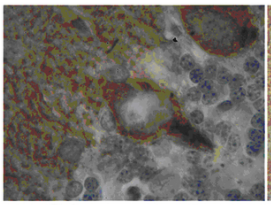
Fig. 1

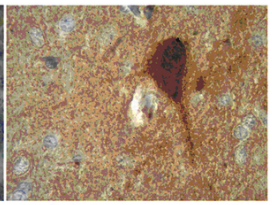
Fig. 2

Western Blotting Analysis:
Representative lot data.
Rat brain tissue lysate was probed with Anti-pan-MAGUK, clone K28/86 (0.5 µg/mL).
Proteins were visualized using a Goat Anti-Mouse IgG secondary antibody conjugated to HRP and chemiluminescence detection system.
Arrow indicates MAGUK Scaffolding Protein Family (~85-110 kDa).