Human IGSF4B/SynCAM3 Antibody

Monoclonal Mouse IgG_1 Clone # 730004

Catalog Number: MAB3678

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IGSF4B/SynCAM3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human IGSF3, 4, 4C, 4D, recombinant mouse IGSF4, or 8 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 730004
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IGSF4B/SynCAM3 Pro21-Tyr329 Accession # Q8N126
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 as a 0.2 µm filtered solution in PBS.

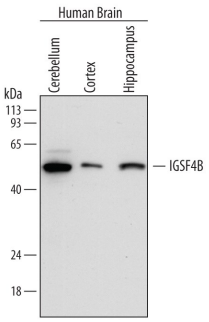
APPLICATIONS

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	0.2 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below

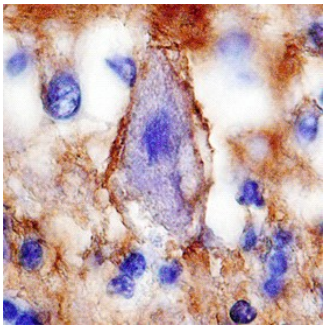
DATA

Western Blot



Detection of Human IGSF4B/SynCAM3 by Western Blot. Western blot shows lysates of human brain (cerebellum) tissue, human brain (cortex) tissue, and human brain (hippocampus) tissue. PVDF membrane was probed with 0.2 µg/mL of Mouse Anti-Human IGSF4B/SynCAM3 Monoclonal Antibody (Catalog # MAB3678) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for IGSF4B/SynCAM3 at approximately 48 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



IGSF4B/SynCAM3 in Human Brain. IGSF4B/SynCAM3 was detected in immersion fixed paraffin-embedded sections of human brain (cerebellum) using Mouse Anti-Human IGSF4B/SynCAM3 Monoclonal Antibody (Catalog # MAB3678) at 15 µg/mL overnight at 4 °C. 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 the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal cell membranes. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
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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BACKGROUND

IGSF4B (immunoglobulin superfamily member 4B), also called CADM3, TSLL1, Necl-1 and SynCAM-3, is a neural tissue-specific member of the nectin-like family of immunoglobulin superfamily (1, 2). It is a 48-50 kDa type I transmembrane (TM) glycoprotein that is concentrated at non-junctional contact sites of neuronal axons and glial processes (2, 3). In myelinated peripheral nerve fibers, IGSF4B is concentrated at nodes of Ranvier in contact sites of Schwann cells (2). The 398 amino acid (aa) human IGSF4B contains a 24 aa signal sequence, a 306 aa extracellular domain (ECD), a 21 aa transmembrane domain and a 47 aa cytoplasmic domain. The ECD contains an N-terminal V-type Ig-like domain that is responsible for Ca^{++}-independent homophilic and heterophilic interactions with Nectin-1, Nectin-3 or Necl-2 (IGSF-4) in *trans*. It also contains two C2-type Ig-like domains that are responsible for Ca^{++}-independent homophilic dimerization in *cis* that is thought to precede *trans* interaction (2, 4, 5). The cytoplasmic domain binds members of the MAGUK guanylate kinase subfamily, such as Dlg3, Pals2 and CASK (2). These activities are thought to play roles in adhesion and architecture at the synapse (2). Of two known splice variants, one shows an insertion of 34 aa near the mature N-terminus and probably represents a 60 kDa form. A smaller variant shows deletions of aa 185-231, and 281-398, which includes the first C2-type Ig-like domain and the TM segment. The IGSF4B ECD is highly conserved, sharing 95-96% aa identity between human mouse, rat, canine and bovine sequences. The ECD of IGSF4A, B, C and D proteins share 35-50% aa identity.

References:

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2. Kakunaga, S. *et al.* (2005) J. Cell Sci. **118**:1267.
3. Fukami, T. *et al.* (2003) Gene **323**:11.
4. Shingai, T. *et al.* (2003) J. Biol. Chem. **278**:35421
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