Human/Mouse/Rat Contactin-2/TAG1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4439

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects mouse and rat Contactin-2 in direct ELISAs. Detects human, mouse, and rat Contactin-2 in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Contactin-2/TAG1 Gln31-Ser1014 Accession # Q61330
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.

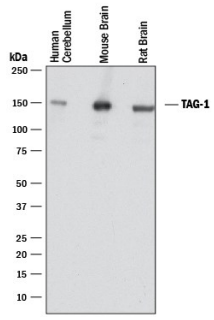
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below

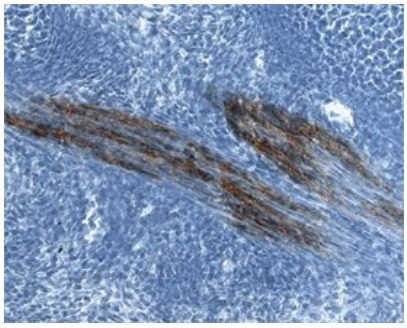
DATA

Western Blot



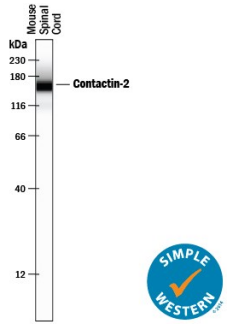
Detection of Human, Mouse, and Rat Contactin-2/TAG1 by Western Blot. Western blot shows lysates of human cerebellum tissue, mouse brain tissue, and rat brain tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human/Mouse/Rat Contactin-2/TAG1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4439) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Contactin-2/TAG1 at approximately 135 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Contactin-2/TAG1 in Mouse Embryo. Contactin-2/TAG1 was detected in immersion fixed frozen sections of mouse embryo (E13) using Goat Anti-Human/Mouse/Rat Contactin-2/TAG1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4439) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to muscle cells in proximity to ribs. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Simple Western



Detection of Mouse Contactin-2/TAG1 by Simple Western™. Simple Western lane view shows lysates of mouse spinal cord tissue, loaded at 0.2 mg/mL. A specific band was detected for Contactin-2/TAG1 at approximately 162 kDa (as indicated) using 10 µg/mL of Goat Anti-Human/Mouse/Rat Contactin-2/TAG1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4439) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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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.

BACKGROUND

Contactin-2 (CNTN2), also called TAG1 (transient axonal glycoprotein), TAX1 (transiently-expressed axonal glycoprotein), or axonin-1, is a 135 kDa glycosyl-phosphatidylinositol (GPI)- anchored cell adhesion molecule that belongs to the contactin subfamily within the immunoglobulin (Ig) protein superfamily (1-3). Mouse Contactin-2 cDNA encodes a 30 amino acid (aa) signal peptide, a 984 aa mature secreted protein with 6 Ig-like domains followed by 4 fibronectin type III-like repeats, and a 26 aa C-terminal GPI anchor pro-sequence. GPI-specific phospholipase activity can release soluble, active Contactin-2 from the membrane (2). Mature mouse Contactin-2 shares approximately 93%, 97%, and 77% aa sequence identity with human, rat, and chicken Contactin-2, respectively. During development, Contactin-2 is expressed by a subset of neuronal populations in the central nervous system (CNS) and peripheral nervous system (PNS), particularly during initial phases of axon outgrowth (3-5). Both the 135 kDa form and a 90 kDa form are also upregulated in response to CNS injury in the adult (6). Data support a role for Contactin-2 in axon pathfinding, neurite outgrowth and adhesion, especially in the CNS (3-6). In mature myelinated fibers, Contactin-2 is expressed by oligodendrocytes and Schwann cells, which are myelinating glial cells of the CNS and PNS, respectively (7, 8). It is enriched in the juxtaparanodal regions, where it recruits contactin-associated protein 2 (caspr2), a transmembrane neurexin involved in cell adhesion and intercellular communication (7-10). The axonal Contactin-2 interacts in cis with caspr2 and in trans with another Contactin-2 on the glial membrane (8). This ternary complex is required for the accumulation and organization of K^+ channels in the juxtaparanodes (9).

References:

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