

DESCRIPTION

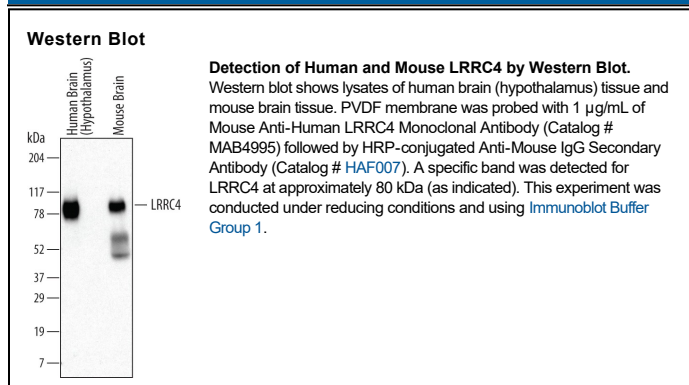
| | |
|---------------------------|---|
| Species Reactivity | Human/Mouse |
| Specificity | Detects human and mouse LRRC4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) LRRC3, rhLRRC4B, or rhLRRC32 is observed. |
| Source | Monoclonal Mouse IgG _{2B} Clone # 701424 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Chinese hamster ovary cell line CHO-derived recombinant human LRRC4 Ala39-Lys527 Accession # Q9HBW1 |
| 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 |

DATA



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. <ul style="list-style-type: none"> 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

LRRC4 (Leucine rich repeat/LRR-containing protein 4), also called NGL-2 (netrin-G ligand-2) or NAG14 (nasopharyngeal carcinoma-associated gene 14) is a 55 kDa (predicted, unglycosylated) type I transmembrane protein that is a member of the NGL family of synaptic LRR adhesion molecules (1, 2). Human LRRC4 cDNA encodes 653 amino acids (aa) that include a 38 aa signal sequence, a 489 aa extracellular domain (ECD), a 21 aa transmembrane domain, and a 105 aa cytoplasmic domain. The ECD contains nine LRRs (aa 74-288), a C2 type Ig like domain (aa 354-440), and a Thr-rich segment (aa 455-526). Within the ECD, human LRRC4 shares 98% aa identity with mouse and rat, 99% aa identity with canine and bovine, and 99.6% aa identity with equine LRRC4. It also shares 54-55% aa identity with family members LRRC4C/NGL-1 and LRRC4B/NGL-3, but each recognizes different ligands (1). LRRC4 is predominantly expressed in the brain on neurons and astrocytes as a ligand for netrin-G2 on the dendritic surface of synaptic neurons (2-4). It is proposed to regulate the formation of excitatory synapses via recruitment of PSD-95 to the cytoplasmic domain after aggregation of LRRC4 at the surface (3, 5). It suppresses proliferation by downregulating cell signaling pathways, resulting in altered expression of cell cycle regulating proteins and delay at the late G1 phase (1, 2, 6-8). It is thus considered a tumor suppressor protein and is often downregulated in brain tumors, particularly gliomas (1, 2, 6). Forced expression of LRRC4 in tumor cells slows proliferation and promotes differentiation (1, 4, 9). Addition of soluble LRRC4 to cultured neurons reduces excitatory synapse formation (3).

References:

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4. Wu, M. *et al.* (2007) *Acta Biochim Biophys Sin (Shanghai)* **39**:731.
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6. Wu, M. *et al.* (2006) *Mol. Biol. Cell* **17**:3534.
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