

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human LRRC4 in direct ELISAs. In direct ELISAs, greater than 25% cross-reactivity with recombinant human (rh) NGL-1/LRRC4C is observed, and no cross-reactivity with rhLRRC4B is observed.                                                                          |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 701419                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant human LRRC4<br>Ala39-Lys527<br>Accession # Q9HBW1                                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 532<br>Excitation Wavelength: 534 nm<br>Emission Wavelength: 553 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**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

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).

## PRODUCT SPECIFIC NOTICES

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