Human/Mouse LRRC4 Alexa Fluor® 750-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 701424

Catalog Number: FAB4995S

100 µg

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
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.*

Western Blot	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 soluable LRRC4 to cultured neurons reduces excitatory synapse formation (3).

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