

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived		
	Human LRRC4 (Ala39-Lys527) Accession # Q9HBW1	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Ala39		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	81 kDa		

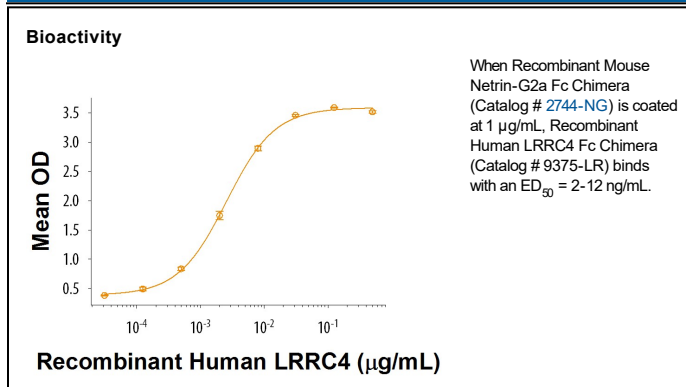
SPECIFICATIONS

SDS-PAGE	91-127 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Netrin-G2a Fc Chimera (Catalog # 2744-NG) is coated at 1 µg/mL, Recombinant Human LRRC4 Fc Chimera (Catalog # 9375-LR) binds with an ED ₅₀ = 2-12 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA



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) 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 in post-synaptic membranes (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 down-regulating 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 down-regulated in brain tumors, particularly gliomas (1, 2, 6). Forced expression of LRRC4 in tumor cells slows proliferation and promotes differentiation (1, 4, 9).

References:

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2. Zhang, Q. *et al.* (2005) *FEBS Lett.* **579**:3674.
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6. Wu, M. *et al.* (2006) *Mol. Biol. Cell* **17**:3534.
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