

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived		
	Human LRFN5 (Gln18-Gly527) Accession # Q96NI6	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus

**N-terminal Sequence Analysis** No results obtained. Gln18 inferred from enzymatic pyroglutamate treatment revealing Ile19

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 83 kDa

**SPECIFICATIONS**

**SDS-PAGE** 90-107 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
When Recombinant Human LRFN5 Fc Chimera is used at 1 µg/mL, the concentration of Recombinant Human LAR that produces 50% optimal binding response is 1.5-9 µg/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**

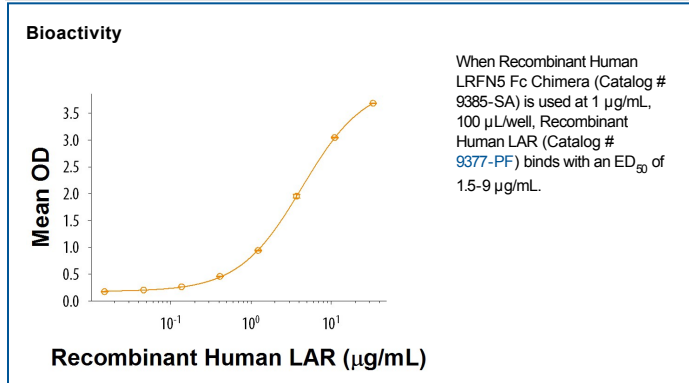
**Reconstitution** Reconstitute at 500 µg/mL in PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**DATA**



**BACKGROUND**

Synaptic adhesion-like molecule 5 (SALM5; also leucine-rich repeat and fibronectin type-III domain-containing protein 5 (LRFN5)) is an approximately 90 kDa member of the SALM family of type I transmembrane glycoproteins (1). LRFNs comprise a family of synaptic adhesion molecules consisting of five members, each containing of an extracellular domain (ECD) of six leucine-rich repeats (LRR), an IgC2-like domain, and a fibronectin type-III domain, tandemly aligned in that order (1, 2). LRFN-3 and -5 lack a C-terminal intracellular PDZ binding domain, which is conserved among LRFN-1, 2 and 4. Mature human LRFN-5 shares 99% amino acid sequence identity with mature mouse LRFNs. LRFN-5, like the other LRFNs, promotes neurite outgrowth as well as playing a role in neuroinflammation (3, 4). LRFN-5 is expressed in the brain and is capable of inducing presynaptic differentiation (5). Reduced expression of LRFN-5 has been associated with autism spectrum disorders and schizophrenia (6, 7). LAR family receptor protein tyrosine phosphatases (LAR-RPTPs) have been identified as novel ligands of LRFN-5 that mediates LRFN-5 dependent presynaptic differentiation in a splicing- dependent manner. LRFN-5 interacts directly with the Ig domain of LAR-RPTPs. The postsynaptic LRFN-5 promotes synapse development by trans-synaptically interacting with presynaptic LAR-RPTPs which is important for the regulation of excitatory synaptic strength (8).

**References:**

1. Morimura, N. *et al.* (2006) *Gene* **380**:72.
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3. Wang, P.Y. *et al.* (2008) *Mol. Cell. Neurosci.* **39**:83.
4. Yuwen, Z. *et al.* (2106) *Sci Adv.* Apr;2(4).
5. Choi, Y. *et al.* (2016) *Sci Adv.* Apr; 2(4).
6. de Bruijn D.R.H. *et al.* (2010) *Mol Syndromol* 46.
7. Xu, B. *et al.* (2009) *PNAS* **106**:16746.
8. Choi, Y. *et al.* (2016) *Sci Rep.* **6**:26676.