

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse IL1RAPL1 protein		
	Mouse IL1RAPL1 (Leu19-Thr357) Accession # P59823.1	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Leu19		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	65 kDa		

SPECIFICATIONS

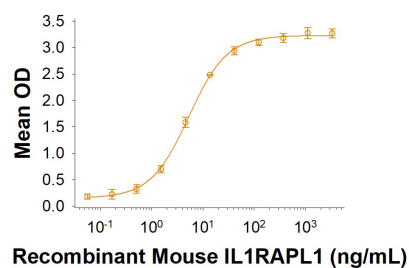
SDS-PAGE	78-88 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human PTPRD Fc Chimera (Catalog # 9995-PR) is immobilized at 1 µg/mL (100 µL/well), Recombinant Mouse IL1RAPL1 Fc Chimera (Catalog # 10756-MR) binds with an ED ₅₀ of 2.25-18.0 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	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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

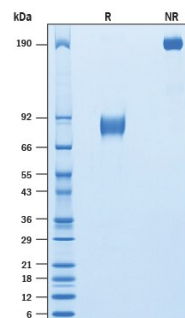
DATA

Binding Activity



Recombinant Mouse IL1RAPL1 Fc Chimera Protein Binding Activity When Recombinant Human PTPRD Fc Chimera (Catalog # 9995-PR) is immobilized at 1 µg/mL (100 µL/well), Recombinant Mouse IL1RAPL1 Fc Chimera (Catalog # 10756-MR) binds with an ED₅₀ of 2.25-18.0 ng/mL.

SDS-PAGE



Recombinant Mouse IL1RAPL1 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse IL1RAPL1 Fc Chimera (Catalog # 10756-MR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 78-88 kDa and 156-176 kDa, respectively.

BACKGROUND

Interleukin 1 receptor accessory protein-like 1 (IL1RAPL1), also known as Oligophen-4 (OPHN4) and three immunoglobulin domain containing IL-1 receptor-related 2 (TIGIRR-2) (1), is a member of the IL-1 receptor superfamily. IL1RAPL1 is a single pass type I membrane protein which contains an N-terminal signal peptide, three extracellular immunoglobulin-like domains, a transmembrane domain, an intracellular Toll/IL-1R domain, and a long C-terminal tail which interacts with multiple signaling molecules (2). High expression levels of IL1RAPL1 was found in post-natal hippocampus, and its expression is upregulated by neuronal activity (3). The extracellular domain of IL1RAPL1 can mediate synapse formation through trans-synaptic interaction with PTPRD (4, 5). In neurons, IL1RAPL1 interacts with PSD-95, a major scaffolding protein of excitatory synapses, and modulates its synaptic localization by regulating JNK activity and PSD-95 phosphorylation (3). Mutation or deletion of IL1RAPL1 gene is associated with non-syndromic intellectual disability and autism spectrum disorder (5). Mouse IL1RAPL1 shares 98% and 99% amino acid sequence identity with human and rat IL1RAPL1, respectively.

References:

1. Born, T.L. *et al.* (2000) J. Biol. Chem. **275**:29946.
2. Bahi, N. *et al.* (2003) Hum. Mol. Gen. **12**:1415.
3. Pavlowsky, A. *et al.* (2010) Curr. Biol. **20**:103.
4. Yoshida, T. *et al.* (2011) J. Neurosci. **31**:13485.
5. Ramos-Brossier, M. *et al.* (2015) Hum Mol Genet. **24**:1106.