

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human IL1RAPL1 protein			
	Human IL-1RAPL1 (Leu19-Thr357) Accession # Q9NZN1.2	GGIEGRMD	Human IgG ₁ (Pro100-Lys330)	Avitag
	N-terminus		C-terminus	
N-terminal Sequence Analysis	Leu19			
Structure / Form	Disulfide-linked homodimer, Biotinylated via Avi-tag			
Predicted Molecular Mass	67 kDa			

SPECIFICATIONS

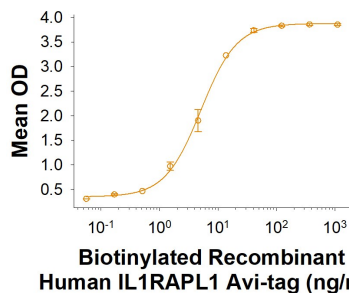
SDS-PAGE	80-90 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human IL1RAPL1 Fc Chimera Avi-tag (Catalog # AVI9949) binds Recombinant Human PTPRD Fc Chimera (Catalog # 9995-PR) with an ED ₅₀ of 1.50-20.0 ng/mL.
Endotoxin Level	<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 with Trehalose. 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.

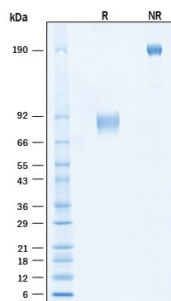
DATA

Binding Activity



Biotinylated Recombinant Human IL1RAPL1 Fc Chimera Avi-tag Protein Binding Activity. Biotinylated Recombinant Human IL1RAPL1 Fc Chimera Avi-tag Protein (Catalog # AVI9949) binds Recombinant Human PTPRD Fc Chimera (Catalog # 9995-PR) with an ED₅₀ of 1.50-20.0 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human IL1RAPL1 Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human IL1RAPL1 Fc Chimera Avi-tag Protein (Catalog # AVI9949) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 80-90 kDa and 160-180 kDa, respectively.

BACKGROUND

Interleukin 1 receptor accessory protein-like 1 (IL1RAPL1), also known as Oligophenin-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 (aa 1-18), three extracellular immunoglobulin-like domains (aa 19-350), a transmembrane domain (aa 358-378), an intracellular Toll/IL-1R domain (aa 403-562), and a long C-terminal tail which interacts with multiple signaling molecules (aa 549-644) (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). Human IL1RAPL1 shares 98% and 99% aa sequence identity with mouse and rat IL1RAPL1, respectively. Our Avi-tag Biotinylated human IL1RAPL1 Fc Chimera features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

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.