Biotinylated Recombinant Human IL-1 RI Avi-tag His-tag

Catalog Number: AVI11319

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human IL-1 RI protein

Human IL-1 RI (Asp21-Lys336) Accession # P14778.1	Avi-tag	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis	Asp21
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	40 kDa

SPECIFICATIONS

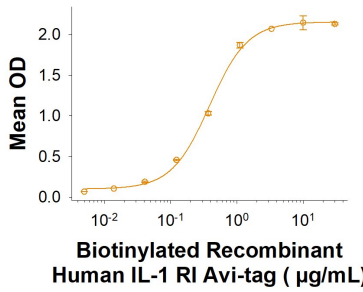
SDS-PAGE	55-66 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IL-1 RAcP/IL-1 R3 (Catalog # 9176-CP) is immobilized at 2 µg/mL (100 µL/well) in the presence of Recombinant Human IL-1α/IL-1F1 (Catalog # 200-LA), it binds to Biotinylated Recombinant Human IL-1 RI Avi-tag His-tag (Catalog # AVI11319) with an ED_{50} of 0.125-1.00 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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 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.

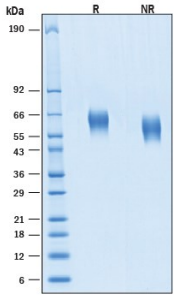
DATA

Binding Activity



Biotinylated Recombinant Human IL-1 RI Avi-tag His-tag Protein Binding Activity. When Recombinant Human IL-1 RAcP/IL-1 R3 (Catalog # 9176-CP) is immobilized at 2 µg/mL (100 µL/well) in the presence of Recombinant Human IL-1α/IL-1F1 (Catalog # 200-LA), it binds to Biotinylated Recombinant Human IL-1 RI Avi-tag His-tag Protein (Catalog # AVI11319) with an ED_{50} of 0.125-1.00 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human IL-1 RI Avi-tag His-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human IL-1 RI Avi-tag His-tag Protein (Catalog # AVI11319) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 55-66 kDa.

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BACKGROUND

The type I IL-1 receptor (IL-1 RI, designated IL-1 R1 and CD121a) is one of at least nine members of the IL-1 R family within the Toll/IL-1 R (TIR) superfamily (1 - 3). IL-1 RI is an 80 kDa type I transmembrane (TM) protein that binds the pleiotropic cytokines IL-1α and IL-1β, plus the IL-1 receptor antagonist (IL-1 Ra). Signal transduction requires complex formation with the IL-1 R accessory protein (IL-1 R AcP/IL-1 R3), another type I TM protein (1, 2). This complex recruits the adaptor protein MyD88, to initiate signaling in the NFκB pathway (4, 5). Human IL-1 RI cDNA encodes a 569 amino acid (aa) protein that contains a 17 aa signal sequence, a 319 aa extracellular domain (ECD) with three C2-type Ig-like domains, a 20 aa TM domain and a 213 aa cytoplasmic region with a TIR domain. Within the ECD domain, human IL-1 RI shares 63% and 64% aa identity with mouse and rat IL-1 RI, respectively. The role of IL-1 in inflammation is under several levels of control, including expression and activation of IL-1α and IL-1β, expression of IL-1 RI and its accessory and adaptor proteins, and inhibitory IL-1 R isoforms and decoys (1 - 5). IL-1 RI is expressed predominantly by T cells, fibroblasts, and endothelial cells and mediates acute phase inflammatory responses including fever (1, 2, 5, 6). Our Avi-tag Biotinylated human IL-1 R1 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:

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2. Dinarello, C.A. (2002) Clin. Exp. Rheumatol. **20**:S1.
3. Hart, R.P. *et al.* (1993) J. Neuroimmunol. **44**:49.
4. Brikos, C. *et al.* (2007) Mol. Cell. Proteomics **6**:1551.
5. Gasse, P. *et al.* (2007) J. Clin. Invest. **117**:3786.
6. Ching, S. *et al.* (2007) J. Neurosci. **27**:10476.

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