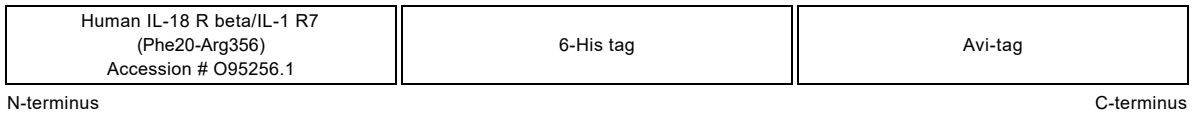
Biotinylated Recombinant Human IL-18 Rβ/IL-1 R7 His-tag Avi-tag

Catalog Number: AVI11210

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IL-18 R beta/IL-1 R7 protein



N-terminal Sequence Analysis	Phe20
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	47 kDa

SPECIFICATIONS

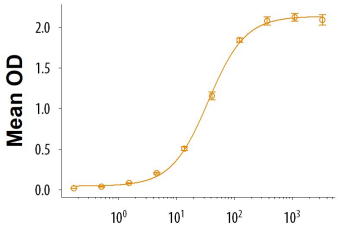
SDS-PAGE	48-61 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IL-18 R alpha/IL-1 R5 Fc Chimera (Catalog # 816-LR) is coated at 0.500 µg/mL (100 µL/well), Biotinylated Recombinant Human IL-18Rβ/IL-1R7 His-tag Avi-tag (Catalog # AVI11210) binds with an ED50 of 2.00-40.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
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.** • 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.

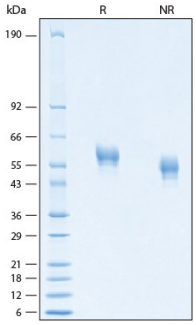
DATA

Binding Activity



Recombinant Human IL-18 R beta/IL-1 R7 His-tag Avi-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. When Recombinant Human IL-18 R alpha/IL-1 R5 Fc Chimera Protein (Catalog # 816-LR) is coated at 0.500 µg/mL (100 µL/well), Biotinylated Recombinant Human IL-18Rβ/IL-1R7 His-tag Avi-tag Protein (Catalog # AVI11210) binds with an ED_{50} of 2.00-40.0 ng/mL.

SDS-PAGE



Recombinant Human IL-18 R beta/IL-1 R7 His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human IL-18 R beta/IL-1 R7 His-tag Avi-tag Protein (Catalog # AVI11210) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 48-61 kDa.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

IL-18, originally described as an interferon-γ inducing factor (IGIF), is a member of the IL-1 family of cytokines that has multiple immunoregulatory functions. It has potent IFN-γ inducing activities and plays a key role in the activation of T helper type 1 (Th1) responses. The functional IL-18 receptor complex consists of two components, the IL-18 Rα (IL-1 R5) and IL-18 Rβ (also termed IL-1 R7 and AcPL) subunits. Both subunits are members of the IL-1 receptor superfamily. Although IL-18 Rα by itself binds IL-18 with low-affinity and IL-18 Rβ does not bind IL-18 in vitro, co-expression of IL-18 Rα and IL-18 Rβ is required for high-affinity binding and IL-18 responsiveness. Human IL-18 Rβ cDNA encodes a 599 amino acid (aa) residue precursor type I membrane protein with a 14 aa signal peptide, a 342 aa extracellular region containing three immunoglobulin-like domains, a single transmembrane domain and a 222 aa cytoplasmic domain. Human and mouse IL-18 Rβ share 65% aa sequence identity. The expression of IL-18 Rβ parallels that of IL-18 Rα and is detected in numerous tissues including lung, spleen, leukocytes and colon. Our Avi-tag Biotinylated IL-18 R β/IL-1R7His-tag 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.* (1998) J. Biol. Chem. **273**:29445.
2. Okamura, H. *et al.* (2000) in *Cytokine Reference,* Vol. **2**:1605, Academic Press.

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