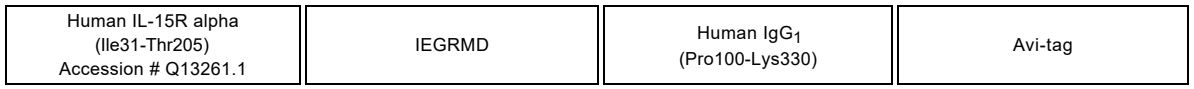
# Biotinylated Recombinant Human IL-15R alpha Fc Chimera Avi-tag

Catalog Number: AVI7194

## DESCRIPTION

**Source**

Chinese Hamster Ovary cell line, CHO-derived human IL-15R alpha protein




| | |
|---|---|
| **N-terminal Sequence Analysis** | Ile31 |
| **Structure / Form** | Disulfide-linked homodimer, biotinylated via Avi-tag |
| **Predicted Molecular Mass** | 47 kDa |

## SPECIFICATIONS

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|---|---|
| **SDS-PAGE** | 70-80 kDa, under reducing conditions |
| **Activity** | The biotin to protein ratio is greater than 0.7 as determined by the HABA assay.<br><br>Measured by its binding ability in a functional ELISA.<br>When Biotinylated Recombinant Human IL-15R alpha Fc Chimera Avi-tag (Catalog # AVI7194) is immobilized at 0.5 µg/mL (100 µL/well), Recombinant Human IL-15 (Catalog # 247-ILB) binds with an $ED_{50}$ of 0.02-0.16 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

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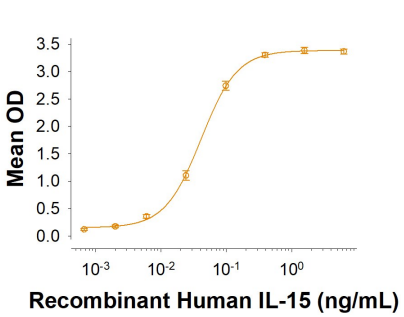
|---|---|
| **Reconstitution** | Reconstitute at 400 µg/mL in PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>• 12 months from date of receipt, -20 to -70 °C as supplied.<br>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>• 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

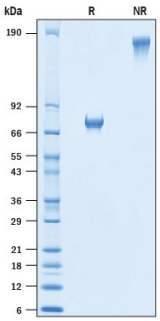
## DATA

**SDS-PAGE**




When Biotinylated Recombinant Human IL-15R alpha Fc Chimera Avi-tag (Catalog # AVI7194) is immobilized at 0.5 µg/mL (100 µL/well), Recombinant Human IL-15 (Catalog # 247-ILB) binds with an $ED_{50}$ of 0.02-0.16 ng/mL.

**SDS-PAGE**




2 µg/lane of Biotinylated Recombinant Human IL-15R alpha Fc Chimera Avi-tag (Catalog # AVI7194) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 70-80 kDa and 140-160 kDa, respectively.



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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

Interleukin 15 Receptor alpha (IL-15 R alpha ), also known as CD215, is a widely expressed 60-kDa transmembrane glycoprotein that plays an important role in the homeostasis and activation of NK cells and CD8+ memory T cells and participates in the development and function of many other hematopoietic cell types and non-immune cell types (1-3). Mature human IL-15 R alpha consists of a 175 amino acid (aa) extracellular domain (ECD) containing one N-linked glycosylation site, a 23 aa transmembrane segment, and a 39 aa cytoplasmic tail (4). Within the ECD, human IL-15 R alpha shares approximately 60% aa sequence identity with mouse and rat IL-15 R alpha. Alternate splicing of human IL-15 R alpha generates additional isoforms with variable length deletions in the ECD and/or substitutions in the cytoplasmic domain (4, 5). IL-15 R alpha binds to Interleukin-15 with high affinity (6). IL-15 additionally interacts with lower affinity to a complex of IL-2 R beta and the common gamma chain ( gamma c) which are also subunits of the IL-2 receptor complex (7, 8). The use of shared receptor components contributes to the overlapping biological effects of IL-15 and IL-2. The dominant mechanism of IL-15 action is known as transpresentation in which IL-15/IL-15 R alpha complexes are expressed on the surface of one cell and interact with complexes of IL-2 R beta / gamma c on adjacent cells (9). This enables cells to respond to IL-15 even if they do not express IL-15 R alpha (10-12). IL-15/IL-15 R alpha complexes can transmit reverse signaling that promotes cellular adhesion, tyrosine phosphorylation of intracellular proteins, and cytokine secretion by the IL-15/IL-15 R alpha expressing cells (13, 14). Shed soluble forms of IL-15 R alpha retain the ability to bind tightly to IL-15 and can inhibit IL-15 bioactivity (6, 15, 16). Our Avi-tag Biotinylated Recombinant Human IL-15 R alpha 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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