Biotinylated Recombinant Human IFN-γ R1/CD119 Avi-tag His-tag

Catalog Number: AVI11030

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human IFN-gamma R1/CD119 protein

Human IFNGR1 (Glu18-Gly245) Accession # P15260.1	Avi-tag	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis	Glu18 and Gly20
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	29 kDa

SPECIFICATIONS

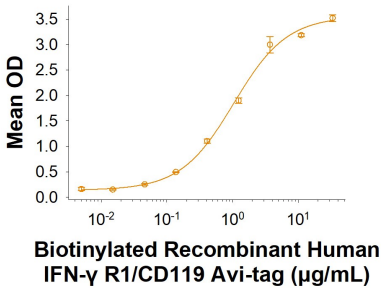
SDS-PAGE	42-55 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinan human IFN-gamma (Catalog # 285-IF/CF) is immobilized at 2.00 µg/mL (100 µL/well), In the presence of Recombinant Human IFN-gamma R2, Biotinylated Recombinant Human IFN-gamma R1/CD119 Avi-tag His-tag binds with an ED_{50} of 0.750-4.50 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 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.

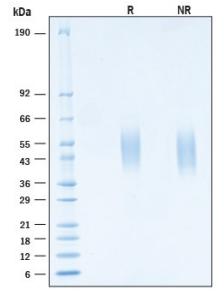
DATA

Binding Activity



Biotinylated Recombinant Human IFN-γ R1/CD119 Avi-tag His-tag Protein Binding Activity. When Recombinant human IFN-gamma (Catalog # 285-IF/CF) is immobilized at 2.00 µg/mL (100 µL/well), In the presence of Recombinant Human IFN-gamma R2, Biotinylated Recombinant Human IFN-gamma R1/CD119 Avi-tag His-tag (Catalog # AVI11030) binds with an ED_{50} of 0.750-4.50 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human IFN-γ R1/CD119 Avi-tag His-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human IFN-γ R1/CD119 Avi-tag His-tag Protein (Catalog # AVI11030) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 42-55 kDa.

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BACKGROUND

Interferon gamma receptor 1 (IFNGR1), along with IFNGR2, are type II cytokine receptors that combine to form a high affinity signaling complex with the type II interferon, IFNG. Mature human IFNGR1 consists of an extracellular domain (ECD) with 2 Ig-like domains, a transmembrane domain and an intracellular domain with both Jak1 and Stat1 binding motifs. The ECD of human IFNGR1 shares 50% amino acid sequence identity with mouse IFNGR1. The IFNG signaling complex is formed by 2 IFNGR1 subunits binding one IFNG dimer directly, and then 2 IFNGR2 molecules further stabilizing the receptor complex. Complex formation then triggers a signaling cascade that culminates in the transcription of the interferon stimulated genes (ISGs) and additional transcription factors. Ultimately, IFNGR1 mediated signaling regulates several biological processes including innate and acquired immune response, apoptosis and cell cycle progression. IFNGR1 is constitutively expressed in most cell types and deletions or mutations to IFNGR1 result in reduced resistance to bacterial, parasitic, and viral infection. Our Avi-tag Biotinylated IFNGR1 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. Bhat, M.Y. *et al.* (2018) J. Cell Commun Signal **12**:745.
2. de Weerd, N.A. and Nguyen, T. (2012) Immunol Cell Biol. **90**:483.
3. Mendoza, J.L. *et al.* (2019) Nature **567**:56.
4. Blouin, C.M. and Lamaze, C. (2013) Front Immunol. **4**:267.
5. Alspach, E. *et al.* (2019) Cold Spring Harb Perspect Biol. **11**:a028480.

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