

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human IFN-gamma R2 protein
Ala22-Gln247 with a C-terminal 6-His tag & Avi-tag
Accession # AAA16955.1

N-terminal Sequence Analysis Ala22

Structure / Form Biotinylated via Avi-tag

Predicted Molecular Mass 28 kDa

SPECIFICATIONS

SDS-PAGE 40-44 kDa, under reducing conditions

Activity Measured by its binding ability in a functional ELISA.
Biotinylated Recombinant Human IFN-gamma R2 His-tag Avi-tag (Catalog # AV111576) binds Recombinant Human IFN- γ (Catalog # 285-IF) in the presence of Recombinant Human IFN- γ R1/CD119 (Catalog # 673-IR/CF) with an ED₅₀ of 0.100-1.50 μ g/mL.

Endotoxin Level <0.10 EU per 1 μ g 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 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 μ g/mL in PBS.

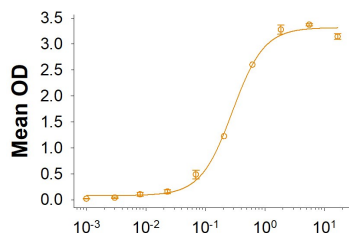
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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

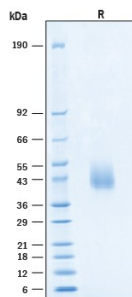
Binding Activity



Biotinylated Recombinant Human IFN-gamma R2 Avi-tag (μ g/mL)

Biotinylated Recombinant Human IFN-gamma R2 His-tag Avi-tag Protein Binding Activity. Biotinylated Recombinant Human IFN-gamma R2 His-tag Avi-tag (Catalog # AV111576) binds Recombinant Human IFN- γ (Catalog # 285-IF) in the presence of Recombinant Human IFN- γ R1/CD119 (Catalog # 673-IR/CF) with an ED₅₀ of 0.100-1.50 μ g/mL.

SDS-PAGE



Biotinylated Recombinant Human IFN-gamma R2 His-tag Avi-tag Protein SDS-PAGE. 2 μ g/lane of Recombinant Human IFN-gamma R2 His-tag Avi-tag Protein (Catalog # AV111576) was resolved with SDS-PAGE under reducing (R) condition and visualized by Coomassie® Blue staining, showing bands at 40-44 kDa.

BACKGROUND

IFN- γ R2 (Interferon gamma receptor 2; also called IFN- γ R β IFN- γ RII, or AF1) is a 60-64 kDa type I transmembrane glycoprotein that is a member of the class II cytokine receptor family of molecules (1). It is widely expressed as part of a preassembled cell surface multimeric complex. In the absence of IFN- γ , the complex contains two each of IFN- γ R1, R2 and Jak1 molecules (2). Binding of IFN- γ to IFN- γ R1 recruits Jak2 to IFN- γ R2 and initiates phosphorylation, STAT1 binding, conformational changes, and transcriptional regulation, which mainly inhibits proliferation and/or promotes apoptosis (2, 3). Within the ECD, human IFN- γ R2 shares 56% aa sequence identity with mouse IFN- γ R2. IFN- γ R1 and R2 must be from the same species for receptor complexes to be active, and human IFN- γ is not active on the mouse IFN- γ receptor complex (1, 2). IFN- γ R1 is essential for ligand binding and is more constitutively expressed, while IFN- γ R2 is essential for signaling, and its more limited expression controls cell response to IFN- γ (2, 3). For example, mouse T cell IFN- γ R2 is down-regulated during differentiation to subtypes such as Th1 which produce IFN- γ . (3, 4) This allows expansion of activated cells without growth arrest due to paracrine response to IFN- γ . Following expansion, IFN- γ R2 is re-expressed to limit the immune reaction (5). IFN- γ signaling mediates control of intracellular pathogens such as mycobacteria (3, 4, 6). In humans, deficiency of IFN- γ R2 or other IFN- γ pathway molecules causes the MSMD (mendelian susceptibility to mycobacterial diseases) syndrome (6-8). Our Avi-tag Biotinylated human IFN- γ R2 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. Hemmi, S. *et al.* (1994) *Cell* **76**:803.
2. Krause, C.D. *et al.* (2006) *Cell Res.* **16**:55.
3. Haring, J. S. *et al.* (2005) *J. Immunol.* **174**:6791.
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5. Foulds, K.E. *et al.* (2008) *J. Immunol.* **180**:842.
6. Rosenzweig, S.D. *et al.* (2004) *J. Immunol.* **173**:4000.
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8. Zhang, S-Y. *et al.* (2008) *Immunol. Rev.* **226**:29.