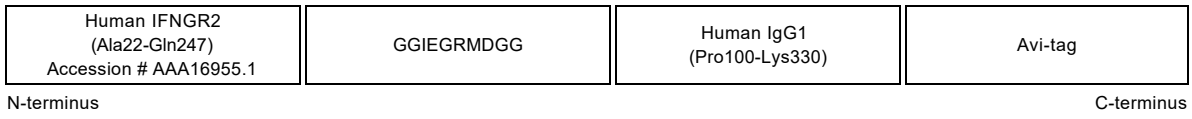
Biotinylated Recombinant Human IFN-gamma R2 Fc Chimera Avi-tag

Catalog Number: AVI11578

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IFN-gamma R2 protein



N-terminal Sequence Analysis	Ala22
Structure / Form	Disulfide-linked homodimer Biotinylated via Avi-tag
Predicted Molecular Mass	54 kDa

SPECIFICATIONS

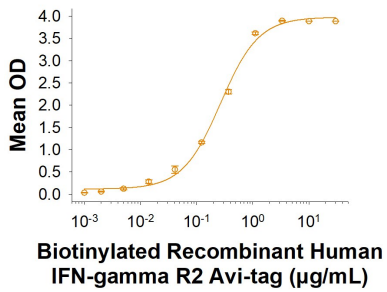
SDS-PAGE	67-74 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human IFN-gamma R2 Fc Chimera Avi-tag (Catalog # AVI11578) binds Recombinant Human IFN-γ (Catalog # 285-IF) in the presence of Recombinant Human IFN-γ R1/CD119 (Catalog # 673-IR/CF) with an ED_{50} of 0.0800-1.20 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.

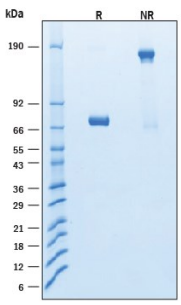
DATA

Binding Activity



Biotinylated Recombinant Human IFN-gamma R2 Fc Chimera Avi-tag Protein Binding Activity. Biotinylated Recombinant Human IFN-gamma R2 Fc Chimera Avi-tag (Catalog # AVI11578) binds Recombinant Human IFN-γ (Catalog # 285-IF) in the presence of Recombinant Human IFN-γ R1/CD119 (Catalog # 673-IR/CF) with an ED_{50} of 0.0800-1.20 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human IFN-gamma R2 Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human IFN-gamma R2 Fc Chimera Avi-tag Protein (Catalog # AVI11578) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 67-74 kDa and 130-150 kDa, respectively.

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BACKGROUND

IFN-γ R2 (Interferon gamma receptor 2; also called IFN-γ Rβ 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:

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2. Krause, C.D. *et al.* (2006) Cell Res. **16**:55.
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