

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IFN-alpha/beta R1 protein		
	Human IFNAR1 (Lys28-Lys436) Accession # AAA52730.1	GGIEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
Structure / Form	Disulfide linked homodimer		
Predicted Molecular Mass	74 kDa		

SPECIFICATIONS

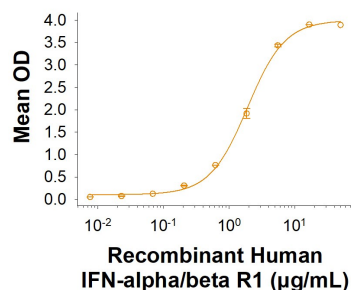
SDS-PAGE	105-120 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human IFN-alpha/beta R1 Fc Chimera (Catalog # 11574-AB) binds Recombinant Human LRPAP (Catalog # 4296-LR) with an ED ₅₀ of 0.750-9.00 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of 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 250 µg/mL in water.
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. <ul style="list-style-type: none"> 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.

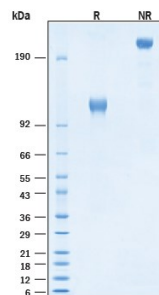
DATA

Binding Activity



Recombinant Human IFN-alpha/beta R1 Fc Chimera Protein Binding Activity. Recombinant Human IFN-alpha/beta R1 Fc Chimera Protein (Catalog # 11574-AB) binds Recombinant Human LRPAP (Catalog # 4296-LR) with an ED₅₀ of 0.750-9.00 µg/mL.

SDS-PAGE



Recombinant Human IFN-alpha/beta R1 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Human IFN-alpha/beta R1 Fc Chimera Protein (Catalog # 11574-AB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 105-120 kDa and 210-240 kDa, respectively.

BACKGROUND

Interferon- α /beta receptor 1 (IFN- α / β R1), also known as IFNAR1, is a 100-130 kDa member of the class II cytokine receptor family of proteins. These proteins form heterodimeric receptor complexes that mediate class II cytokine signals. Subunits of the different receptor complexes are shared and serve multiple functions (1). IFN- α / β R1, in association with IFN- α / β R2, is required for propagating anti-microbial signal transduction triggered by the type 1 interferons such as IFN- α and IFN- β (2, 3). Mature human IFN- α / β R1 consists of a 409 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 100 aa cytoplasmic domain (4). The ECD contains three tandem fibronectin type III repeats and is extensively glycosylated. Within the ECD, human IFN- α / β R1 shares 47% and 50% aa identity with mouse and rat IFN- α / β R1, respectively. Alternative splicing generates two additional isoforms that lack the transmembrane segment and either all or a portion of the cytoplasmic domain. IFN- α / β R1 interacts very weakly or not at all with type 1 interferons and does not stably interact with IFN- α / β R2. Ligands preferentially associate with IFN- α / β R2, and this complex subsequently forms a stable ternary assembly with IFN- α / β R1 (5-7). IFN- α / β R1 also associates with IFN- γ R2 even in the absence of IFN- γ stimulation (3). IFN- α / β R1 activation depends on tyrosine phosphorylation as well as palmitoylation of its cytoplasmic domain (8, 9). Rapid down-regulation of the receptor is accomplished by ligand-dependent or -independent pathways (e.g. VEGF R signaling, TLR signaling, or cellular stress) which induce its serine phosphorylation, ubiquitination, and degradation (10-13).

References:

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