

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human IFN-alpha/beta R2 protein		
	Human IFN- α / β R2 (Ile27-Lys243) Accession # P48551	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus

N-terminal Sequence Ile27

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 51.3 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 71-76 kDa, reducing conditions

Activity Measured by its ability to inhibit Type-I IFN-mediated anti-viral activity.
The ED₅₀ for this effect, as measured by inhibition of Recombinant Human IFN- β (Catalog # 8499-IF), is 0.1-0.6 μ g/mL

Endotoxin Level <0.01 EU per 1 μ g of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 μ g/mL in sterile PBS.

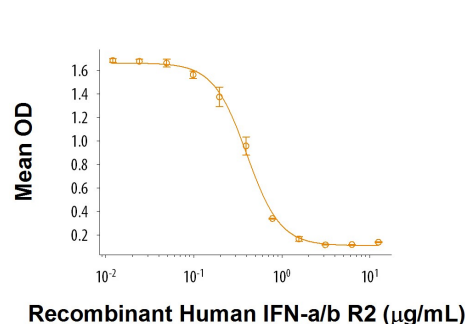
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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

Bioactivity



Recombinant Human IFN-alpha/beta R2 Fc Chimera (Catalog # 4015-AB) inhibits the anti-viral activity of Recombinant Human IFN-beta (Catalog # 8499-IF). The ED₅₀ for this effect is 0.1-0.6 μ g/mL.

BACKGROUND

IFN- α / β R2, also known as IFNAR2, is a 100 kDa glycoprotein in the class II cytokine receptor family. These proteins form heterodimeric receptor complexes that transduce signals from the interferon, IL-10, and IL-28 families of cytokines (1, 2). IFN- α / β R2, in association with IFN- α / β R1, is required for mediating the antiviral, antiproliferative, and apoptotic effects of the type I interferons IFN- α and IFN- β . IFN- α / β R2 is the principal ligand binding subunit of the receptor. Ligand binding is stabilized by the subsequent association with IFN- α / β R1, resulting in the formation of a signaling ternary receptor complex (3, 4). Mature human IFN- α / β R2 consists of a 217 amino acid (aa) extracellular domain (ECD) with two fibronectin type III repeats, a 21 aa transmembrane segment, and a 251 aa cytoplasmic domain. Alternate splicing generates a secreted isoform that corresponds to the ECD and a 50 kDa transmembrane isoform with a substituted and truncated cytoplasmic region (5, 6). The short isoform is impaired in its ability to activate signaling molecules and functions as a dominant negative receptor subunit (7 - 9). IFN- α / β R2 is also subject to presenilin-dependent intramembrane proteolysis, resulting in the liberation of nearly the entire ECD as well as the cytoplasmic domain which migrates to the nucleus and can inhibit gene transcription (10). High concentrations of soluble IFN- α / β R2 bind and neutralize IFN- α and IFN- β , while lower concentrations prolong the antiviral activity of circulating IFN- β but not IFN- α (11). Human but not mouse IFN- α / β R2 constitutively associates with STAT4, which may account for species specific differences observed in type I interferon responses (12). Within the ECD, human IFN- α / β R2 shares 63%, 60%, and 48% aa sequence identity with bovine, mouse, and ovine IFN- α / β R2, respectively.

References:

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