Recombinant Cynomolgus Monkey IFN-α/β R2 Fc Chimera

Catalog Number: 10071-AB

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived cynomolgus monkey IFN-alpha/beta R2 protein

Cynomolgus IFN-alpha R2 (Ile 27-Lys243) Accession # P48551	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Ile 27
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	51.4 kDa

SPECIFICATIONS

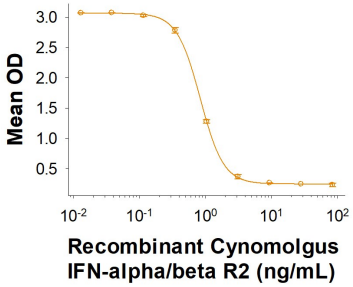
SDS-PAGE	75 - 95 kDa, reducing conditions
Activity	Measured by its ability to inhibit Type-I IFN-mediated anti-viral activity. The ED_{50} for this effect is 0.5-3.5 µg/mL in the presence of 30 pg/mL of Recombinant Human IFN-β (Catalog # 8499-IF).
Endotoxin Level	<0.10 EU per 1 µg of the protein by the 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. 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.

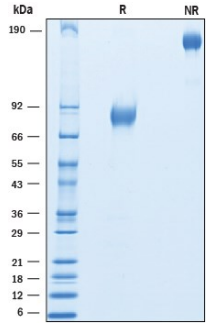
DATA

Inhibition Activity



Recombinant Cynomolgus IFN-alpha/beta R2 Fc Chimera (Catalog # 10071-AB) inhibits the anti-viral activity of (Catalog # 8499-IF) The ED_{50} for this effect is 0.5-3.5 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey IFN-α/β R2 (Catalog # 10071-AB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 75-95 kDa and 150-190 kDa, respectively.

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BACKGROUND

IFN-alpha/beta 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). Mature IFN-alpha / beta R2 consists of an extracellular domain (ECD), containing two fibronectin type III repeats, a transmembrane segment, and a cytoplasmic domain. Alternative splicing generates a secreted isoform that corresponds to the ECD as well as a 50 kDa transmembrane isoform with a substituted and truncated cytoplasmic region (3, 4). The short isoform is impaired in its ability to activate signaling molecules and functions as a dominant negative receptor subunit (5-7). The mature ECD of cynomolgus IFN-alpha/ beta R2 shares 93% and 100% amino acid (aa) sequence identity with that of human and rhesus, respectively. IFN-alpha/beta R2, in association with IFN-alpha/beta R1, is required for mediating the antiviral, antiproliferative, and apoptotic effects of the type I interferons IFN-alpha and IFN-beta. IFN-alpha / beta R2 is the principal ligand binding subunit of the receptor. Ligand binding is stabilized by the subsequent association with IFN-alpha / beta R1, resulting in the formation of a signaling ternary receptor complex (8, 9). IFN-alpha / beta 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-alpha / beta R2 bind and neutralize IFN-alpha and IFN-beta, while lower concentrations prolong the antiviral activity of circulating IFN-beta but not IFN-alpha (11). Human but not mouse IFN-alpha / beta R2 constitutively associates with STAT4, which may account for species specific differences observed in type I interferon responses (12).

References:

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