Human IFN-α/β R2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4015

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IFN-α/β R2 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse IFN-α/β R2, recombinant human (rh) IFN-γ R1, and rhIFN-γ R2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IFN-α/β R2 Ile27-Lys243 Accession # P48551
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

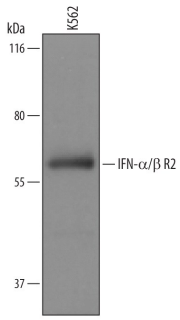
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human IFN-α/β R2 by Western Blot. Western blot shows lysates of K562 human chronic myelogenous leukemia cell line. PVDF Membrane was probed with 1 µg/mL of Human IFN-α/β R2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4015) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for IFN-α/β R2 at approximately 58 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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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