Human IFN-α/β R1 Alexa Fluor® 488-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2951C
Catalog Number: FAB2452G
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IFN-α/β R1 in direct ELISA.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2951C
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human IFN-alpha/beta R1 Gly26-Lys436 Accession # P17181
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Flow Cytometry	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was U937 human histiocytic lymphoma cell line.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Interferon-alpha/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 phoshorylation 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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