Human IFN-α/β R1 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2951C
Catalog Number: MAB2452

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
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 either lyophilized or as a 0.2 μm filtered solution in PBS.

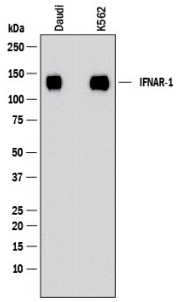
APPLICATIONS

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	2 µg/mL	Daudi human Burkitt's lymphoma cell line and K562 human chronic myelogenous leukemia cell line
Flow Cytometry	0.10 µg/10^6 cells	U937 human histiocytic lymphoma cell line

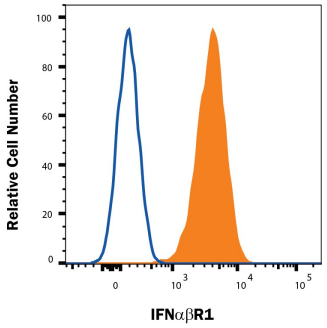
DATA

Western Blot



Detection of Human IFN-α/β R1 by Western Blot. Western blot shows lysates of Daudi human Burkitt's lymphoma cell line and K562 human chronic myelogenous leukemia cell line. PVDF membrane was probed with 2 µg/mL of Rabbit Anti-Human IFN-α/β R1 Monoclonal Antibody (Catalog # MAB2452) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for IFN-α/β R1 at approximately 120 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Flow Cytometry



Detection of IFN-α/β R1 in U937 cells by Flow Cytometry. U937 cells were stained with Rabbit Anti-Human IFN-α/β R1 Monoclonal Antibody (Catalog # MAB2452, filled histogram) or isotype control antibody (Catalog # MAB1050, open histogram), followed by Allophycocyanin-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # F0111). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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.

bio-techne
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human IFN-α/β R1 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2951C
Catalog Number: MAB2452

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:

1. Langer, J.A. *et al.* (2004) Cytokine Growth Factor Rev. **15**:33.
2. Hwang, S.Y. *et al.* (1995) Proc. Natl. Acad. Sci. USA **92**:11284.
3. Takaoka, A. *et al.* (2000) Science **288**:2357.
4. Uze, G. *et al.* (1990) Cell **60**:225.
5. Lamken, P. *et al.* (2004) J. Mol. Biol. **341**:303.
6. Arduini, R.M. *et al.* (1999) Prot. Sci. **8**:1867.
7. Kalie, E. *et al.* (2008) J. Biol. Chem. **283**:32925.
8. Platanias, L.C. (2005) Nat. Rev. Immunol. **5**:375.
9. Claudinon, J. *et al.* (2009) J. Biol. Chem. **284**:24328.
10. Zheng, H. *et al.* (2011) Blood **118**:4003.
11. Qian, J. *et al.* (2011) PLoS Pathogens **7**:e1002065.
12. Bhattacharya, S. *et al.* (2010) J. Biol. Chem. **285**:2318.
13. Bhattacharya, S. *et al.* (2011) J. Biol. Chem. **286**:22069.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449