SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-α/βRα (H-11): sc-7391

BACKGROUND

The type I interferons (IFNs), α and β, are a group of structurally and functionally related proteins that are induced by either viruses or double stranded RNA and defined by their ability to confer an antiviral state in cells. The α and β IFNs appear to compete with one another for binding to a common cell surface receptor, while immune IFN (IFN-γ) binds to a distinct receptor. The latter protein, IFN-αR, is only weakly responsive to type I interferons in contrast to IFN-α/βR, which binds to and responds effectively to IFN-β and to several of the IFN-α subtypes. Moreover, IFN-α/βR is physically associated with the cytoplasmic tyrosine kinase JAK1 and thus, in addition to ligand binding, appears to be functionally involved in signal transduction. The IFN-γ receptor complex consists of an α subunit (IFN-γRα) and a β subunit that is 332 amino acids in length (mouse) and 337 amino acids in length (human).

CHROMOSOMAL LOCATION

Genetic locus: IFNAR1 (human) mapping to 21q22.11; Ifnar1 (mouse) mapping to 16 C3.3.

SOURCE

IFN-α/βRα (H-11) is a mouse monoclonal antibody raised against amino acids 458-557 mapping at the C-terminus (complete intracellular domain) of the IFN-α/βRα chain precursor of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFN-α/βRα (H-11) is available conjugated to agarose (sc-7391 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-7391 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7391 PE), fluorescein (sc-7391 FITC), Alexa Fluor® 488 (sc-7391 AF488), Alexa Fluor® 546 (sc-7391 AF546), Alexa Fluor® 594 (sc-7391 AF594) or Alexa Fluor® 647 (sc-7391 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7391 AF680) or Alexa Fluor® 790 (sc-7391 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IFN-α/βRα (H-11) is recommended for detection of IFN-α/βRα chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IFN-α/βRα siRNA (h): sc-35637, IFN-α/βRα siRNA (m): sc-40090, IFN-α/βRα shRNA Plasmid (h): sc-35637-SH, IFN-α/βRα shRNA Plasmid (m): sc-40090-SH, IFN-α/βRα shRNA (h) Lentiviral Particles: sc-35637-V and IFN-α/βRα shRNA (m) Lentiviral Particles: sc-40090-V.

Molecular Weight of IFN-α subunit: 110 kDa.

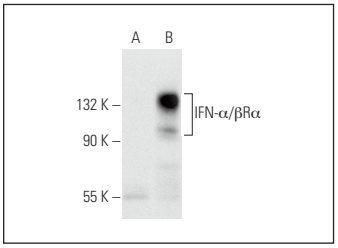
Molecular Weight of IFN-β subunit: 95-100 kDa.

Molecular Weight of IFN-β subunit short form: 55 kDa.

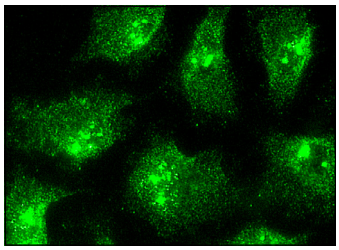
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



IFN-α/βRα (H-11): sc-7391. Western blot analysis of IFN-α/βRα expression in non-transfected: sc-117752 (**A**) and human IFN-α/βRα transfected: sc-113922 (**B**) 293T whole cell lysates.



IFN-α/βRα (H-11): sc-7391. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Miller, D.M., et al. 1999. Human cytomegalovirus inhibits IFN-α-stimulated antiviral and immunoregulatory responses by blocking multiple levels of IFN-α signal transduction. J. Immunol. 162: 6107-6113.
2. Kumar, K.G., et al. 2004. Phosphorylation and specific ubiquitin acceptor sites are required for ubiquitination and degradation of the IFNAR1 subunit of type I interferon receptor. J. Biol. Chem. 279: 46614-46620.
3. Guo, J.T. 2005. West Nile virus inhibits the signal transduction pathway of α interferon. J. Virol. 79: 1343-1350.
4. Zurney, J., et al. 2007. Basal expression levels of IFNAR and Jak-Stat components are determinants of cell-type-specific differences in cardiac antiviral responses. J. Virol. 81: 13668-13680.
5. Li, X., et al. 2008. SENP1 mediates TNF-induced desumoylation and cytoplasmic translocation of HIPK1 to enhance ASK1-dependent apoptosis. Cell Death Differ. 15: 739-750.
6. Duan, X., et al. 2011. Differential roles for the interferon-inducible IFI16 and AIM2 innate immune sensors for cytosolic DNA in cellular senescence of human fibroblasts. Mol. Cancer Res. 9: 589-602.
7. Lu, J., et al. 2012. Enterovirus 71 disrupts interferon signaling by reducing the level of interferon receptor 1. J. Virol. 86: 3767-3776.
8. Mathieu, M.G., et al. 2014. The helicase HAGE prevents interferon-α-induced PML expression in ABCB5+ malignant melanoma-initiating cells by promoting the expression of SOCS1. Cell Death Dis. 5: e1061.
9. Han, T., et al. 2015. Set7 facilitates hepatitis C virus replication via enzymatic activity-dependent attenuation of the IFN-related pathway. J. Immunol. 194: 2757-2768.

RESEARCH USE

For research use only, not for use in diagnostic procedures.