SANTA CRUZ BIOTECHNOLOGY, INC.

IFIT3 (B-7): sc-393512

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The tetratricopeptide repeat (TPR) motif is a degenerate, 34 amino acid sequence found in many proteins and acts to mediate protein-protein interactions in various pathways. At the sequence level, there can be up to 16 tandem TPR repeats, each of which has a helix-turn-helix shape that stacks on other TPR repeats to achieve ligand binding specificity. IFIT3 (interferon-induced protein with tetratricopeptide repeats 3), also known as IRG2, IFI60, IFIT4, ISG60 or RIG-G, is a 490 amino acid protein that contains eight TPR repeats and may play a role in cell cycle regulation and cellular proliferation. The gene encoding IFIT3 maps to human chromosome 10q23.31, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

CHROMOSOMAL LOCATION

Genetic locus: IFIT3 (human) mapping to 10q23.31.

SOURCE

IFIT3 (B-7) is a mouse monoclonal antibody raised against amino acids 286-490 mapping at the C-terminus of IFIT3 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.

IFIT3 (B-7) is available conjugated to agarose (sc-393512 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393512 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393512 PE), fluorescein (sc-393512 FITC), Alexa Fluor® 488 (sc-393512 AF488), Alexa Fluor® 546 (sc-393512 AF546), Alexa Fluor® 594 (sc-393512 AF594) or Alexa Fluor® 647 (sc-393512 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393512 AF680) or Alexa Fluor® 790 (sc-393512 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IFIT3 (B-7) is recommended for detection of IFIT3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IFIT3 siRNA (h): sc-75326, IFIT3 shRNA Plasmid (h): sc-75326-SH and IFIT3 shRNA (h) Lentiviral Particles: sc-75326-V.

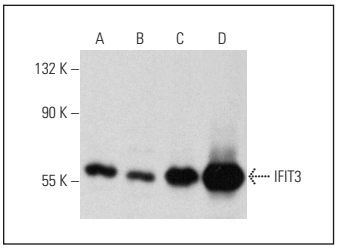
Molecular Weight of IFIT3: 58 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, BJ whole cell lysate: sc-364359 or WI-38 whole cell lysate: sc-364260.

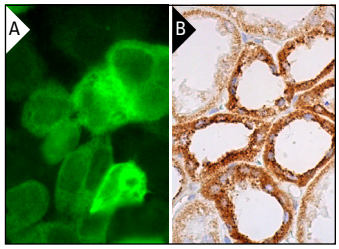
STORAGE

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

DATA



IFIT3 (B-7): sc-393512. Western blot analysis of IFIT3 expression in Caki-1 (**A**), SK-MEL-28 (**B**), BJ (**C**) and WI-38 (**D**) whole cell lysates.



IFIT3 (B-7): sc-393512. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic localization in a subset of cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Sanpui, P., et al. 2014. Single-walled carbon nanotubes increase pandemic influenza A H1N1 virus infectivity of lung epithelial cells. Part. Fibre Toxicol. 11: 66.
2. Walter, K.R., et al. 2017. Interferon-stimulated genes are transcriptionally repressed by PR in breast cancer. Mol. Cancer Res. 15: 1331-1340.
3. Goodman, M.L., et al. 2019. Progesterone receptor attenuates Stat1-mediated IFN signaling in breast cancer. J. Immunol. 202: 3076-3086.
4. Koch, S., et al. 2019. Kaposi's sarcoma-associated herpesvirus vIRF2 protein utilizes an IFN-dependent pathway to regulate viral early gene expression. PLoS Pathog. 15: e1007743.
5. Liu, R., et al. 2019. Vaccinia virus ankyrin-repeat/F-box protein targets interferon-induced IFITs for proteasomal degradation. Cell Rep. 29: 816-828.
6. Zhao, L., et al. 2020. A long non-coding RNA IVRPIE promotes host antiviral immune responses through regulating interferon β1 and ISG expression. Front. Microbiol. 11: 260.
7. Walter, K.R., et al. 2020. Progesterone receptor promotes degradation of Stat2 to inhibit the interferon response in breast cancer. Oncoimmunology 9: 1758547.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.