SANTA CRUZ BIOTECHNOLOGY, INC.

IRF-1 (C-20): sc-497

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Interferon regulatory factor-1 (IRF-1) and IRF-2 have been identified as novel DNA-binding factors that function as regulators of both type I interferon (interferon-α and β) and interferon-inducible genes. The two factors are structurally related, particularly in their N-terminal regions, which confer DNA binding specificity. In addition, both bind to the same sequence within the promoters of interferon-α and interferon-β genes. IRF-1 functions as an activator of interferon transcription, while IRF-2 binds to the same *cis* elements and represses IRF-1 action. IRF-1 and IRF-2 have been reported to act in a mutually antagonistic manner in regulating cell growth; overexpression of the repressor IRF-2 leads to cell transformation while concomitant overexpression of IRF-1 causes reversion. IRF-1 and IRF-2 are members of a larger family of DNA binding proteins that includes IRF-3, IRF-4, IRF-5, IRF-6, IRF-7, ISGF-3γ p48 (a component of the ISGF-3 complex) and IFN consensus sequence-binding protein (ICSBP).

CHROMOSOMAL LOCATION

Genetic locus: IRF1 (human) mapping to 5q31.1.

SOURCE

IRF-1 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of IRF-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-497 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-497 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IRF-1 (C-20) is recommended for detection of IRF-1 of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IRF-1 (C-20) is also recommended for detection of IRF-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IRF-1 siRNA (h): sc-35706, IRF-1 shRNA Plasmid (h): sc-35706-SH and IRF-1 shRNA (h) Lentiviral Particles: sc-35706-V.

IRF-1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

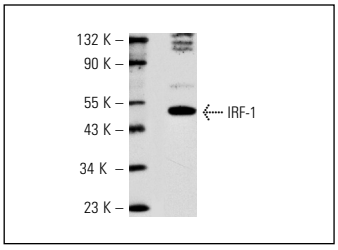
Molecular Weight of IRF-1: 48 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, or Jurkat nuclear extract: sc-2132.

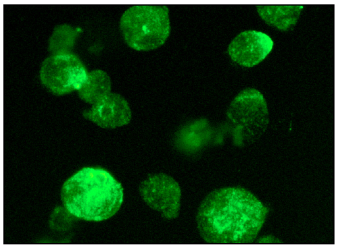
STORAGE

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

DATA



IRF-1 (C-20): sc-497. Western blot analysis of IRF-1 expression in Jurkat whole cell lysate.



IRF-1 (C-20): sc-497. Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Chatterjee-Kishore, M., et al. 2000. How Stat1 mediates constitutive gene expression: a complex of unphosphorylated Stat1 and IRF1 supports transcription of the LMP2 gene. EMBO J. 19: 4111-4122.
2. Wang, Y., et al. 2011. BRG1 is indispensable for IFN-γ-induced TRIM22 expression, which is dependent on the recruitment of IRF-1. Biochem. Biophys. Res. Commun. 410: 549-554.
3. El Bougrini, J., et al. 2011. PML positively regulates interferon γ signaling. Biochimie 93: 389-398.
4. Wu, Y., et al. 2011. Up-regulation and sustained activation of Stat1 are essential for interferon-γ (IFN-γ)-induced dual oxidase 2 (Duox2) and dual oxidase A_2 ($DuoxA_2$) expression in human pancreatic cancer cell lines. J. Biol. Chem. 286: 12245-12256.
5. Chen, G., et al. 2011. Molecular mechanisms for synchronized transcription of three complement C1q subunit genes in dendritic cells and macrophages. J. Biol. Chem. 286: 34941-34950.
6. Fragale, A., et al. 2011. Critical role of IRF-8 in negative regulation of TLR3 expression by Src homology 2 domain-containing protein tyrosine phosphatase-2 activity in human myeloid dendritic cells. J. Immunol. 186: 1951-1962.
7. Ahmad, H., et al. 2011. Kaposi sarcoma-associated herpesvirus degrades cellular Toll-interleukin-1 receptor domain-containing adaptor-inducing β-interferon (TRIF). J. Biol. Chem. 286: 7865-7872.

RESEARCH USE

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