SANTA CRUZ BIOTECHNOLOGY, INC.

IRF-1 (M-20): sc-640

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; Irf1 (mouse) mapping to 11 B1.3.

SOURCE

IRF-1 (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of IRF-1 of mouse 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-640 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-640 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IRF-1 (M-20) is recommended for detection of IRF-1 of mouse, rat and, to a lesser extent, 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), 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 IRF-1 siRNA (h): sc-35706, IRF-1 siRNA (m): sc-35707, IRF-1 shRNA Plasmid (h): sc-35706-SH, IRF-1 shRNA Plasmid (m): sc-35707-SH, IRF-1 shRNA (h) Lentiviral Particles: sc-35706-V and IRF-1 shRNA (m) Lentiviral Particles: sc-35707-V.

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

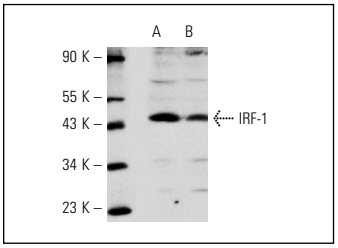
Molecular Weight of IRF-1: 48 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or RAW 264.7 + IFN-γ cell lysate: sc-2259.

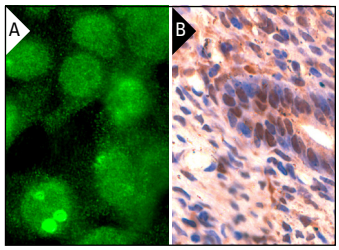
STORAGE

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

DATA



IRF-1 (M-20): sc-640. Western blot analysis of IRF-1 expression in whole cell lysates prepared from IFN-γ induced (**A**) and control (**B**) RAW 264.7 cells.



IRF-1 (M-20): sc-640. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear local-ization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse uterus tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Kumar, A., et al. 1997. Deficient cytokine signaling in mouse embryo fibroblasts with a targeted deletion in the PKR gene: role of IRF-1 and NFκB. EMBO J. 16: 406-416.
2. Nguyen, H., et al. 1997. Activation of multiple growth regulatory genes following inducible expression of IRF-1 or IRF/RelA fusion proteins. Oncogene 15: 1425-1435.
3. Molle, C., et al. 2010. Critical role of the IFN-stimulated gene factor 3 complex in TLR-mediated IL-27p28 gene expression revealing a two-step activation process. J. Immunol. 184: 1784-1792.
4. Gamero, A.M., et al. 2010. STAT2 contributes to promotion of colorectal and skin carcinogenesis. Cancer Prev. Res. 3: 495-504.
5. Liu, Y.C., et al. 2010. CpG-B oligodeoxynucleotides inhibit TLR-dependent and -independent induction of type I IFN in dendritic cells. J. Immunol. 184: 3367-3376.
6. Liu, B.H., et al. 2010. The fungal metabolite, citrinin, inhibits lipopolysaccharide/interferon-γ-induced nitric oxide production in glomerular mesangial cells. Int. Immunopharmacol. 10: 1608-1615.
7. López-Peláez, M., et al. 2011. Cot/tpl2 activity is required for TLR-induced activation of the Akt p70 S6k pathway in macrophages: Implications for NO synthase 2 expression. Eur. J. Immunol. 41: 1733-1741.

RESEARCH USE

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