SANTA CRUZ BIOTECHNOLOGY, INC.

IRF-1 (H-8): sc-74530

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 (H-8) is a mouse monoclonal antibody raised against amino acids 121-325 of IRF-1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-74530 X, 200 µg/0.1 ml.

IRF-1 (H-8) is available conjugated to agarose (sc-74530 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74530 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74530 PE), fluorescein (sc-74530 FITC), Alexa Fluor® 488 (sc-74530 AF488), Alexa Fluor® 546 (sc-74530 AF546), Alexa Fluor® 594 (sc-74530 AF594) or Alexa Fluor® 647 (sc-74530 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74530 AF680) or Alexa Fluor® 790 (sc-74530 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

IRF-1 (H-8) is recommended for detection of IRF-1 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) 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 shRNA Plasmid (h): sc-35706-SH and IRF-1 shRNA (h) Lentiviral Particles: sc-35706-V.

IRF-1 (H-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

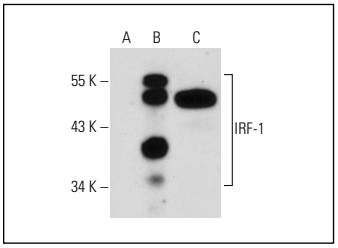
Molecular Weight of IRF-1: 48 kDa.

Positive Controls: IRF-1 (h2): 293T Lysate: sc-159114, Jurkat whole cell lysate: sc-2204 or Raji whole cell lysate: sc-364236.

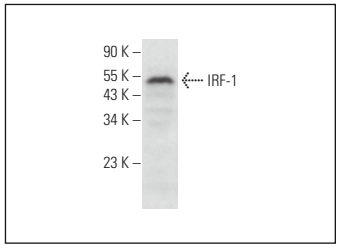
STORAGE

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

DATA



IRF-1 (H-8): sc-74530. Western blot analysis of IRF-1 expression in non-transfected 293T: sc-117752 (**A**), human IRF-1 transfected 293T: sc-159114 (**B**) and Jurkat (**C**) whole cell lysates.



IRF-1 (H-8): sc-74530. Western blot analysis of IRF-1 expression in Raji whole cell lysate.

SELECT PRODUCT CITATIONS

1. la Sala, A., et al. 2009. Cholera toxin inhibits IL-12 production and CD8α+ dendritic cell differentiation by cAMP-mediated inhibition of IRF-8 function. J. Exp. Med. 206: 1227-1235.
2. Libregts, S.F., et al. 2011. Chronic IFN-γ production in mice induces anemia by reducing erythrocyte life span and inhibiting erythropoiesis through an IRF-1/PU.1 axis. Blood 118: 2578-2588.
3. Londhe, P., et al. 2012. CIITA is silenced by epigenetic mechanisms that prevent the recruitment of transactivating factors in rhabdomyosarcoma cells. Int. J. Cancer 131: E437-E448.
4. Zhang, P., et al. 2013. SAHA down-regulates the expression of indoleamine 2,3-dioxygenase via inhibition of the JAK/Stat1 signaling pathway in gallbladder carcinoma cells. Oncol. Rep. 29: 269-275.
5. Sgarbanti, M., et al. 2014. IκB kinase ε targets interferon regulatory factor 1 in activated T lymphocytes. Mol. Cell. Biol. 34: 1054-1065.
6. Shi, L., et al. 2015. Endotoxin tolerance in monocytes can be mitigated by α2-interferon. J. Leukoc. Biol. 98: 651-659.
7. Yuan, J., et al. 2019. MIR17HG-miR-18a/19a axis, regulated by interferon regulatory factor-1, promotes gastric cancer metastasis via Wnt/β-catenin signalling. Cell Death Dis. 10: 454.
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9. Wandel, M.P., et al. 2020. Guanylate-binding proteins convert cytosolic bacteria into caspase-4 signaling platforms. Nat. Immunol. 21: 880-891.
10. Chen, W., et al. 2021. Inhibition of GFAT1 in lung cancer cells destabilizes PD-L1 protein. Carcinogenesis 42: 1171-1178.

RESEARCH USE

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