SANTA CRUZ BIOTECHNOLOGY, INC.

Act1 (WW-18): sc-100647

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the NFκB family of transcription factors are important in regulating the expression of various cellular and viral genes involved in immune and inflammatory responses, cell survival and stress responses. IL-1, TNFα and other related signaling pathways activate transcription factors through the activation of JNK. The NFκB signaling pathway converges with the signal-induced activation of JNK upstream of IKK. Isolated from the human embryonic kidney (HEK) 293 cell line, Act1 is an IKKγ-associated protein that activates both NFκB and JNK constitutively. Act1, also designated NFκB activator 1 or CIKS (for connection to IKK and SAPK/JNK), may function as a coordinator between two stress-induced signaling pathways.

REFERENCES

1. Siebenlist, U., et al. 1994. Structure, regulation and function of NFκB. Annu. Rev. Cell Biol. 10: 405-455.
2. Barnes, P.J. and Karin, M. 1997. NFκB: a pivotal transcription factor in chronic inflammatory diseases. N. Engl. J. Med. 336: 1066-1071.

CHROMOSOMAL LOCATION

Genetic locus: TRAF3IP2 (human) mapping to 6q21; Traf3ip2 (mouse) mapping to 10 B1.

SOURCE

Act1 (WW-18) is a mouse monoclonal antibody raised against recombinant Act1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Act1 (WW-18) is recommended for detection of Act1 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)], 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 Act1 siRNA (h): sc-29634, Act1 siRNA (m): sc-29635, Act1 shRNA Plasmid (h): sc-29634-SH, Act1 shRNA Plasmid (m): sc-29635-SH, Act1 shRNA (h) Lentiviral Particles: sc-29634-V and Act1 shRNA (m) Lentiviral Particles: sc-29635-V.

Molecular Weight of Act1: 72 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Hep G2 nuclear extract: sc-364819 or HeLa nuclear extract: sc-2120.

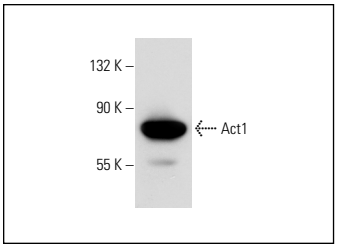
STORAGE

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

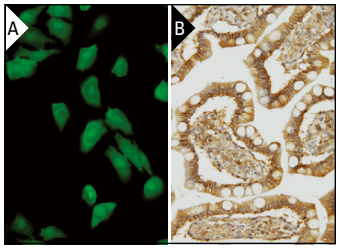
RESEARCH USE

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

DATA



Act1 (WW-18): sc-100647. Western blot analysis of Act1 expression in Hep G2 nuclear extract.



Act1 (WW-18): sc-100647. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small Intestine tissue showing membrane and cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Yariswamy, M., et al. 2016. Cardiac-restricted overexpression of TRAF3 interacting protein 2 (TRAF3IP2) results in spontaneous development of myocardial hypertrophy, fibrosis, and dysfunction. J. Biol. Chem. 291: 19425-19436.
2. Erikson, J.M., et al. 2017. Targeting TRAF3IP2 by genetic and interventional approaches inhibits ischemia/reperfusion-induced myocardial injury and adverse remodeling. J. Biol. Chem. 292: 2345-2358.
3. Sommer, A., et al. 2018. Th17 lymphocytes induce neuronal cell death in a human iPSC-based model of Parkinson's disease. Cell Stem Cell 23: 123-131.e6.
4. Abdellatif, A.M., et al. 2019. Human islet response to selected type 1 diabetes-associated bacteria: a transcriptome-based study. Front. Immunol. 10: 2623.
5. Ma, T., et al. 2020. Maternal exposure to di-n-butyl phthalate promotes the formation of testicular tight junctions through down-regulation of NFκB/Cox-2/PGE2/MMP-2 in mouse offspring. Environ. Sci. Technol. 54: 8245-8258.
6. Pires, B.R.B., et al. 2021. Twist1 influences the expression of leading members of the IL-17 signaling pathway in HER2-positive breast cancer cells. Int. J. Mol. Sci. 22: 12144.
7. Miyashita, Y., et al. 2022. TICAM-1/TRIF associates with Act1 and suppresses IL-17 receptor-mediated inflammatory responses. Life Sci. Alliance 5: e202101181.
8. Wang, S., et al. 2023. NFκB activator 1 downregulation in macrophages activates STAT3 to promote adenoma-adenocarcinoma transition and immunosuppression in colorectal cancer. BMC Med. 21: 115.

PROTOCOLS

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