

# Act1 (H-300): sc-11444

## BACKGROUND

Members of the NF $\kappa$ B 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, TNF $\alpha$  and other related signaling pathways activate transcription factors through the activation of JNK. The NF $\kappa$ B 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 IKK $\gamma$ -associated protein that activates both NF $\kappa$ B and JNK constitutively. Act1, also designated NF $\kappa$ B 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 NF $\kappa$ B. *Annu. Rev. Cell Biol.* 10: 405-455.
2. Barnes, P.J., et al. 1997. NF $\kappa$ B: a pivotal transcription factor in chronic inflammatory diseases. *N. Engl. J. Med.* 336: 1066-1071.
3. Karin, M., et al. 2000. Phosphorylation meets ubiquitination: the control of NF- $\kappa$ B activity. *Annu. Rev. Immunol.* 18: 621-663.

## CHROMOSOMAL LOCATION

Genetic locus: TRAF3IP2 (human) mapping to 6q21.

## SOURCE

Act1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping near the N-terminus of Act1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Act1 (H-300) is recommended for detection of Act1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 Act1 siRNA (h): sc-29634, Act1 shRNA Plasmid (h): sc-29634-SH and Act1 shRNA (h) Lentiviral Particles: sc-29634-V.

Molecular Weight of Act1: 72 kDa.

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

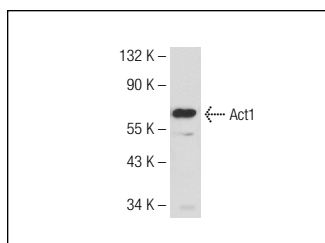
## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

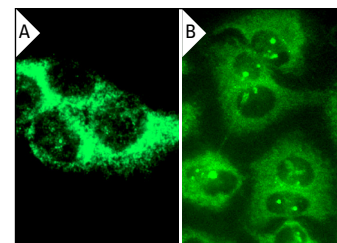
## RESEARCH USE

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

## DATA



Act1 (H-300): sc-11444. Western blot analysis of Act1 expression in HeLa nuclear extract.



Act1 (H-300): sc-11444. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

1. Pacifico, F., et al. 2003. Promoter identification of CIKS, a novel NF $\kappa$ B activating gene, and regulation of its expression. *Gene* 307: 99-109.
2. Matsuyama, W., et al. 2004. Activation of discoidin domain receptor 1 isoform  $\beta$  with collagen upregulates chemokine production in human macrophages: role of p38 mitogen-activated protein kinase and NF $\kappa$ B. *J. Immunol.* 172: 2332-2340.
3. Chang, S.H., et al. 2006. Act1 adaptor protein is an immediate and essential signaling component of interleukin-17 receptor. *J. Biol. Chem.* 281: 35603-35607.
4. Matsushima, Y., et al. 2010. An atopic dermatitis-like skin disease with hyper-IgE-emia develops in mice carrying a spontaneous recessive point mutation in the *Traf3ip2* (Act1/CIKS) gene. *J. Immunol.* 185: 2340-2349.
5. Peters, A.L., et al. 2010. Differential TRAF3 utilization by a variant human CD40 receptor with enhanced signaling. *J. Immunol.* 185: 6555-6562.
6. Sun, D., et al. 2011. Treatment with IL-17 prolongs the half-life of chemokine CXCL1 mRNA via the adaptor TRAF5 and the splicing-regulatory factor SF2 (ASF). *Nat. Immunol.* 12: 853-860.
7. Cho, K.A., et al. 2012. IL-17 and IL-22 enhance skin inflammation by stimulating the secretion of IL-1 $\beta$  by keratinocytes via the ROS-NLRP3-caspase-1 pathway. *Int. Immunol.* 24: 147-158.
8. Zhong, B., et al. 2012. Negative regulation of IL-17-mediated signaling and inflammation by the ubiquitin-specific protease USP25. *Nat. Immunol.* 13: 1110-1117.


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Try **Act1 (D-11): sc-398161** or **Act1 (WW-18): sc-100647**, our highly recommended monoclonal alternatives to Act1 (H-300).