

# A20 (59A426): sc-52910

## BACKGROUND

A20 is a Cys2/Cys2 zinc finger protein that is induced by a variety of inflammatory stimuli and regulates gene expression. Specifically, A20 is induced by tumor necrosis factor (TNF) and interleukin-1 (IL-1), and acts as a negative regulator of nuclear factor  $\kappa$  B (NF $\kappa$ B) gene expression. By inhibiting NF $\kappa$ B activation, A20 plays a critical role in terminating NF $\kappa$ B responses to various stimuli. Although the C-terminal region of A20 contains seven zinc finger domains, only four of these domains are required for *in vitro* inhibition of TNF-induced NF $\kappa$ B activation. A20 also interacts with several other proteins, such as TRAF2, TRAF6 and I $\kappa$ B kinase (IKK)  $\gamma$  protein, and thereby can inhibit cell death. In addition, the novel A20-binding protein TXBP151 may mediate the anti-apoptotic activity of A20. Involved in the negative feedback regulation of signal transduction, A20 and A20-binding proteins may be useful as novel therapeutic tools in the treatment of a variety of diseases.

## REFERENCES

1. De Valck, D., et al. 1999. The zinc finger protein A20 interacts with a novel anti-apoptotic protein which is cleaved by specific caspases. *Oncogene* 29: 4182-4190.
2. Beyaert, R., et al. 2000. A20 and A20-binding proteins as cellular inhibitors of nuclear factor- $\kappa$ B-dependent gene expression and apoptosis. *Biochem. Pharmacol.* 8: 1143-1151.
3. Van Huffel, S., et al. 2001. Identification of a novel A20-binding inhibitor of nuclear factor- $\kappa$ B activation termed ABIN-2. *J. Biol. Chem.* 276: 30216-30223.
4. Lademann, U., et al. 2001. A20 zinc finger protein inhibits TNF-induced apoptosis and stress response early in the signaling cascades and independently of binding to TRAF2 or 14-3-3 proteins. *Cell Death Differ.* 3: 265-272.
5. Klinkenberg, M., et al. 2001. Functional redundancy of the zinc fingers of A20 for inhibition of NF $\kappa$ B activation and protein-protein interactions. *FEBS Lett.* 1: 93-97.

## CHROMOSOMAL LOCATION

Genetic locus: TNFAIP3 (human) mapping to 6q23.3; Tnfaip3 (mouse) mapping to 10 A3.

## SOURCE

A20 (59A426) is a mouse monoclonal antibody raised against full length fusion A20 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

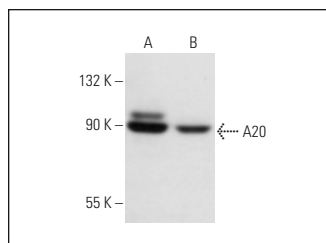
A20 (59A426) is recommended for detection of A20 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for A20 siRNA (h): sc-37655, A20 siRNA (m): sc-37656, A20 shRNA Plasmid (h): sc-37655-SH, A20 shRNA Plasmid (m): sc-37656-SH, A20 shRNA (h) Lentiviral Particles: sc-37655-V and A20 shRNA (m) Lentiviral Particles: sc-37656-V.

Molecular Weight of A20: 90 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Daudi cell lysate: sc-2415 or U-937 + TNF $\alpha$  cell lysate: sc-2297.

## DATA




A20 (59A426): sc-52910. Western blot analysis of A20 expression in Jurkat (A) and Daudi (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Kelly, C., et al. 2013. Expression of the nuclear factor- $\kappa$ B inhibitor A20 is altered in the cystic fibrosis epithelium. *Eur. Respir. J.* 41: 1315-1323.
2. Afonina, I.S., et al. 2016. The paracaspase MALT1 mediates CARD14-induced signaling in keratinocytes. *EMBO Rep.* 17: 914-927.
3. Douanne, T., et al. 2016. The paracaspase MALT1 cleaves the LUBAC subunit HOIL1 during antigen receptor signaling. *J. Cell Sci.* 129: 1775-1780.
4. Gao, X., et al. 2019. SENP2 suppresses NF $\kappa$ B activation and sensitizes breast cancer cells to doxorubicin. *Eur. J. Pharmacol.* 854: 179-186.
5. Yin, H., et al. 2022. A20 and ABIN-1 cooperate in balancing CBM complex-triggered NF $\kappa$ B signaling in activated T cells. *Cell. Mol. Life Sci.* 79: 112.

## RESEARCH USE

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



See **A20 (A-12): sc-166692** for A20 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.