SANTA CRUZ BIOTECHNOLOGY, INC.

A20 (6D88): sc-69981

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 κ B (NFκB) gene expression. By inhibiting NFκB activation, A20 plays a critical role in terminating NFκB 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 NFκB activation. A20 also interacts with several other proteins, such as TRAF2, TRAF6 and IκB kinase (IKK) γ protein, and can thereby inhibit cell death. TXBP151, a novel A20-binding protein, 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., Jin, D.Y., Heyninck, K., Van de Craen, M., Contreras, R., Fiers, W., Jeang, K.T. and Beyaert, R. 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., Heyninck, K. and Van Huffel, S. 2000. A20 and A20-binding proteins as cellular inhibitors of NFκB-dependent gene expression and apoptosis. Biochem. Pharmacol. 8: 1143-1151.
3. Van Huffel, S., Delaei, F., Heyninck, K., De Valck, D. and Beyaert, R. 2001. Identification of a novel A20-binding inhibitor of NFκB activation termed ABIN-2. J. Biol. Chem. 276: 30216-30223..
4. Lademann, U., Kallunki, T. and Jaattela, M. 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., Van Huffel, S., Heyninck, K. and Beyaert, R. 2001. Functional redundancy of the zinc fingers of A20 for inhibition of NFκB activation and protein-protein interactions. FEBS Lett. 1: 93-97.

CHROMOSOMAL LOCATION

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

SOURCE

A20 (6D88) is a mouse monoclonal antibody raised against the zinc finger domain (corresponding to amino acids 375-537) of human A20.

PRODUCT

Each vial contains 200 µg IgG_1 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 (6D88) is recommended for detection of A20 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for A20 siRNA (h): sc-37655.

Molecular Weight of A20: 90 kDa.

Positive Controls: TNF-α induced HT1080 cells, Jurkat whole cell lysate: sc-2204 or U-937+TNFα Cell Lysate: sc-2297.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml).

RESEARCH USE

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

PROTOCOLS

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