SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-1 p10 (C-20): sc-515

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Caspase-1, originally designated ICE (for IL-1 converting enzyme), is a member of the group of caspases with large prodomains. Caspase-1 promotes maturation of interleukin IL-1 β and interleukin18 (IL-18) by proteolytic cleavage of precursor forms into biologically active pro-inflammatory cytokines. The prodomain of caspase-1 (also known as Pro-C1) represents the amino acid terminal portion of the caspase-1 precursor. Active caspase-1, a (p20/p10)2 tetramer, is necessary and sufficient for cleavage of precursor IL-1 as well as for induction of apoptosis in some cell lines. The highly conserved family of caspases mediate many of the morphological and biochemical features of apoptosis, including structural dismantling of cell bodies and nuclei, fragmentation of genomic DNA, destruction of regulatory proteins and propagation of other pro-apoptotic molecules. The human Caspase-1 gene maps to chromosome 11q22.3 and encodes a cytoplasmic protein expressed in liver, heart, skeletal muscle kidney and testis. Caspase-1 has been implicated in inflammation, septic shock, and other situations such as wound healing and the growth of certain leukemias.

CHROMOSOMAL LOCATION

Genetic locus: CASP1 (human) mapping to 11q22.3.

SOURCE

caspase-1 p10 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-1 p10 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-1 p10 (C-20) is recommended for detection of p10 subunit and precursor of caspase-1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with caspase p20.

caspase-1 p10 (C-20) is also recommended for detection of p10 subunit and precursor of caspase-1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for caspase-1 siRNA (h): sc-29235, caspase-1 shRNA Plasmid (h): sc-29235-SH and caspase-1 shRNA (h) Lentiviral Particles: sc-29235-V.

Molecular Weight of caspase-1 p10: 10 kDa.

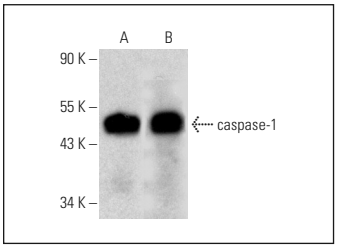
Molecular Weight of caspase-1 p10 precursor: 45 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, H69AR whole cell lysate: sc-364382 or WI 38 whole cell lysate: sc-364260.

STORAGE

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

DATA



caspase-1 p10 (C-20): sc-515. Western blot analysis of caspase-1 expression in WI-38 (**A**) and H69AR (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Drexler, H.C., et al. 1997. Activation of the cell death program by inhibition of proteasome function. Proc. Natl. Acad. Sci. USA 94: 855-860.
2. Chin, Y.E., et al. 1997. Activation of the STAT signaling pathway can cause expression of Caspase 1 and apoptosis. Mol. Cell. Biol. 17: 5328-5337.
3. Taxman, D.J., et al. 2011. The NLR adaptor ASC/PYCARD regulates DUSP10, mitogen-activated protein kinase (MAPK), and chemokine induction independent of the inflammasome. J. Biol. Chem. 286: 19605-19616.
4. Brown, G.T. and McIntyre, T.M. 2011. Lipopolysaccharide signaling without a nucleus: kinase cascades stimulate platelet shedding of proinflammatory IL-1β-rich microparticles. J. Immunol. 186: 5489-5496.
5. Walsh, J.G., et al. 2011. Caspase-1 promiscuity is counterbalanced by rapid inactivation of processed enzyme. J. Biol. Chem. 286: 32513-32524.
6. Plantinga, T.S., et al. 2011. Crohn's disease-associated ATG16L1 polymorphism modulates pro-inflammatory cytokine responses selectively upon activation of NOD2. Gut 60: 1229-1235.
7. Varga, A., et al. 2012. Ragweed pollen extract intensifies LPS-induced priming of NLRP3 inflammasome in human macrophages. Immunology 138: 392-401.
8. Lee, H.M., et al. 2012. Mycobacterium abscessus activates the NLRP3 inflammasome via Dectin-1-Syk and p62/SQSTM1. Immunol. Cell Biol. 90: 601-610.

RESEARCH USE

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