SANTA CRUZ BIOTECHNOLOGY, INC.

cleaved caspase-1 p10 (m315): sc-22166

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Caspase-1 (interleukin-1 β convertase) belongs to the Interleukin-1-β converting enzyme subfamily of caspases which mediate many 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. Caspase-1 promotes maturation of interleukin IL-1 β and interleukin 18 (IL-18) by proteolytic cleavage of precursor forms into biologically active pro-inflammatory cytokines. Cleavage of caspase-1 into the p20 and p10 subunits directly correlates with the progression of apoptosis in the cell resulting in the initiation of the caspase cascade. Proteolytic cleavage of the precursor caspase-1 at glycine residue 317 in human and 315 in mouse generates the functional caspase-1 subunits, known as p20 and p10 subunits. At the amino acid level, the mouse p10 subunit is 81% identical to the human p10 subunit.

REFERENCES

1. Molineaux, S.M., et al. 1993. IL-1 β processing in murine macrophages requires a structurally conserved homologue of human IL-1 β converting enzyme. Proc. Natl. Acad. Sci. USA 90: 1809-1813.
2. Alnemri, E.S., et al. 1995. Cloning and expression of four novel isoforms of human interleukin-1 β converting enzyme with different apoptotic activities. J. Biol. Chem. 270: 4312-4317
3. Takahashi, H., et al. 1997. Interleukin-1 β converting enzyme and CPP32 are involved in ultraviolet B-induced apoptosis of SV 40-transformed human keratinocytes. Biochem. Biophys. Res. Commun. 236: 194-198.
4. Taylor, S., et al. 2000. Cloning and sequencing of feline and canine ice-related cDNAs encoding hybrid caspase-1/caspase-13-like propeptides. DNA Seq. 10: 387-394.
5. Eldadah, B.A., et al. 2000. Caspase pathways, neuronal apoptosis, and CNS injury. J. Neurotrauma 10: 811-829.
6. Wang, J., et al. 2000. Role of caspases in apoptosis, development, and cytokine maturation revealed by homozygous gene deficiencies. J. Cell Sci. 113: 753-757.
7. Bossenmeyer-Pourie, C., et al. 2000. Involvement of caspase-1 in hypoxic brain injury. Effects of their inhibitors in developing neurons. Neuroscience 95: 1157-1165.
8. Tatsuta, T., et al. 2000. The prodomain of caspase-1 enhances Fas-mediated apoptosis through facilitation of caspase-3 activation. J. Biol. Chem. 275: 14248-14254.
9. Detjen, K.M., et al. 2002. Interferon-γ inhibits growth of human neuroendocrine carcinoma cells via induction of apoptosis. Int. J. Oncol. 21: 1133-1140.

CHROMOSOMAL LOCATION

Genetic locus: Casp1 (mouse) mapping to 9 A1.

STORAGE

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

SOURCE

cleaved caspase-1 p10 (m315) is a goat polyclonal antibody raised against a short amino acid sequence containing the neoepitope at Gly 315 of caspase-1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22166 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cleaved caspase-1 p10 (m315) is recommended for detection of the p10 subunit of caspase-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 full length caspase-1.

Suitable for use as control antibody for caspase-1 siRNA (m): sc-29922, caspase-1 shRNA Plasmid (m): sc-29922-SH and caspase-1 shRNA (m) Lentiviral Particles: sc-29922-V.

Molecular Weight of cleaved caspase-1 p10: 10 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yao, Y., et al. 2012. NLRC5 regulates MHC class I antigen presentation in host defense against intracellular pathogens. Cell Res. 22: 836-847.
2. Petrasek, J., et al. 2015. Metabolic danger signals, uric acid and ATP, mediate inflammatory cross-talk between hepatocytes and immune cells in alcoholic liver disease. J. Leukoc. Biol. 98: 249-256.

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.