SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-1 (14F468): sc-56036

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-inflamatory cytokines. 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 2q14 and encodes a cytoplasmic protein expressed in liver, heart, skeletal muscle kidney and testis. caspase-1 is implicated in inflammation, septic shock, and other situations such as wound healing and the growth of certain leukemias.

REFERENCES

1. 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.
2. Gu, Y., et al. 1995. Interleukin-1 β converting enzyme requires oligomerization for activity of processed forms *in vivo*. Embo J. 14: 1923-1931.
3. Tatsuta, T., et al. 2000. The prodomain of caspase-1 enhances Fas-mediated apoptosis through facilitation of caspase-8 activation. J. Biol. Chem. 275: 14248-14254.
4. 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.
5. Eldadah, B.A. and Faden, A.I. 2000. Caspase pathways, neuonal apoptosis, and CNS injury. J. Neurotrauma 10: 811-829.
6. SWISS-PROT/TrEMBL (P29466). World Wide Web URL:http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: CASP1 (human) mapping to 11q23; Casp1 (mouse) mapping to 9A1.

SOURCE

caspase-1 (14F468) is a mouse monoclonal antibody raised against amino acids 371-390 of caspase-1 of human origin .

PRODUCT

Each vial contains 100 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

caspase-1 (14F468) is recommended for detection of caspase-1 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for caspase-1 siRNA (h): sc-29235.

Molecular Weight of caspase-1: 45 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, HL-60 + LPS cell lysate: sc-24704 or Jurkat Whole cell lysate: sc-2204.

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.

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.