SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-1 p10 (M-20): sc-514

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 (mouse) mapping to 9 A1.

SOURCE

caspase-1 p10 (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-1 p10 of mouse 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-514 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-1 p10 (M-20) is recommended for detection of p10 subunit and precursor of caspase-1 of mouse and rat 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-1 p20.

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

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 caspase-1 p10 precursor: 45 kDa.

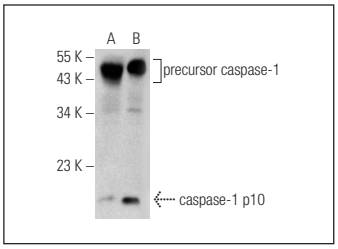
Molecular Weight of caspase-1 p10: 10 kDa.

Positive Controls: RAW 309 Cr.1 cell lysate: sc-3814, WEHI-231 whole cell lysate: sc-2213 or RAW 309 Cr.1 + LPS cell lysate: sc-24770.

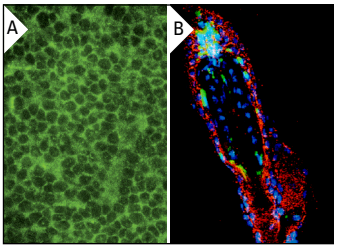
STORAGE

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 (M-20): sc-514. Western blot analysis of caspase-1 p10 expression in RAW 309 Cr.1 (**A**) and RAW 309 Cr.1 & LPS (**B**) whole cell lysates.



caspase-1 p10 (M-20): sc-514. Immunofluorescence staining of normal mouse lymph node frozen section showing cytoplasmic staining (**A**). Cryostat section of mouse skin showing a single hair follicle staining with caspase-1 p10 (red immunofluorescence staining). Note also TUNEL staining marking apoptotic cells (green fluorescence) and HOECHST 33342 nuclear counterstain (blue fluorescence). Kindly provided by Hair Research Group, Humboldt University, Berlin (**B**).

SELECT PRODUCT CITATIONS

1. Bhat, R.V., et al. 1996. Increased expression of IL-1β converting enzyme in hippocampus after ischemia: selective localization in microglia. J. Neurosci. 16: 4146-4154.
2. Sun, S., et al. 2012. The ATP-P2X7 signaling axis is dispensable for obesity-associated inflammasome activation in adipose tissue. Diabetes 61: 1471-1478.
3. Descamps, D., et al. 2012. Toll-like receptor 5 (TLR5), IL-1β secretion, and asparagine endopeptidase are critical factors for alveolar macrophage phagocytosis and bacterial killing. Proc. Natl. Acad. Sci. USA 109: 1619-1624.
4. Wang, Y., et al. 2012. Mifepristone-inducible caspase-1 expression in mouse embryonic stem cells eliminates tumor formation but spares differentiated cells *in vitro* and *in vivo*. Stem Cells 30: 169-179.
5. Mankan, A.K., et al. 2012. The NLRP3/ASC/Caspase-1 axis regulates IL-1β processing in neutrophils. Eur. J. Immunol. 42: 710-715.
6. Lee, H.M., et al. 2013. Upregulated NLRP3 inflammasome activation in patients with type 2 diabetes. Diabetes 62: 194-204.

RESEARCH USE

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