SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-1 p20 (M-19): sc-1218

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. The prodomain of caspase-1 (also known as Pro-C1) represents the amino acid terminal portion of the caspase-1 precursor. Pro-C1 is produced as a residual component after proteolytic cleavage of the precursor generates the functional caspase-1 subunits known as the p20 and p10 subunits. 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 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 p20 (M-19) is available as either goat (sc-1218) or rabbit (sc-1218-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of caspase-1 p20 of mouse origin.

PRODUCT

Each vial contains either 100 µg (sc-1218) or 200 µg (sc-1218-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1218 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-1 p20 (M-19) is recommended for detection of p20 subunit and precursor of caspase-1 of mouse, rat and *Xenopus laevis* 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 p10; partially cross reactive with caspase-4, 5 and 6.

caspase-1 p20 (M-19) is also recommended for detection of p20 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.

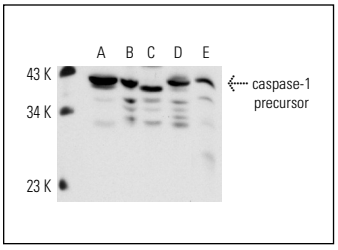
Molecular Weight of caspase-1 p20: 45/20 kDa.

Positive Controls: RAW 264.7 + LPS/IFN-γ cell lysate: sc-24767, RAW 309 Cr.1 cell lysate: sc-3814 or WEHI-231 whole cell lysate: sc-2213.

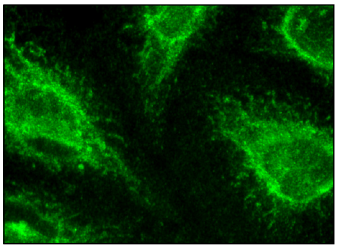
STORAGE

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

DATA



caspase-1 p20 (M-19)-R: sc-1218-R. Western blot analysis of caspase-1 precursor expression in LPS/IFN-2 induced RAW 264.7 (**A**), WR19L (**B**), WEHI-231 (**C**) and RAW 309 Cr.1 (**D**) whole cell lysates and mouse spleen tissue extract (**E**).



caspase-1 p20 (M-19): sc-1218. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kitagawa, H., et al. 1998. Reduction of ischemic brain injury by topical application of glial cell line-derived neurotrophic factor after permanent middle cerebral artery occlusion in rats. Stroke 29: 1417-1422.
2. Ay, I., et al. 2001. ntravenous basic fibroblast growth factor (bFGF) decreases DNA fragmentation and prevents downregulation of Bcl-2 expression in the ischemic brain following middle cerebral artery occlusion in rats. Brain Res. Mol. Brain Res. 81: 71-80.
3. Woldbaek, P.R., et al. 2003. Increased cardiac IL-18 mRNA, pro-IL-18 and plasma IL-18 after myocardial infarction in the mouse; a potential role in cardiac dysfunction. Cardiovasc. Res. 59: 122-131.
4. Lee, P., et al. 2009. Dynamic expression of epidermal caspase 8 simulates a wound healing response. Nature 458: 519-523.
5. Zhao, J., et al. 2013. P2X7 blockade attenuates murine lupus nephritis by inhibiting activation of the NLRP3/ASC/caspase 1 pathway. Arthritis Rheum. 65: 3176-3185.
6. Yang, S.M., et al. 2013. Antroquinonol mitigates an accelerated and progressive IgA nephropathy model in mice by activating the Nrf2 pathway and inhibiting T cells and NLRP3 inflammasome. Free Radic. Biol. Med. 61: 285-297.

RESEARCH USE

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