

caspase-1 p20 (C-15): sc-1780

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. 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 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 p20 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-1 p20 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-1780 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-1 p20 (C-15) is recommended for detection of p20 subunit and precursor of caspase-1 of human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); partially cross-reactive with caspase-4, 5, 11, 12 and 13.

caspase-1 p20 (C-15) is also recommended for detection of p20 subunit and precursor of caspase-1 in additional species, including equine, canine, bovine and porcine.

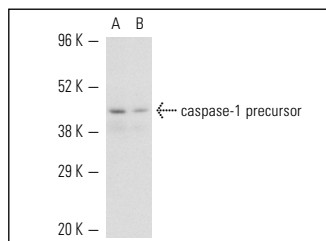
Suitable for use as control antibody for caspase-1 p20 siRNA (h): sc-29922, caspase-1 p20 shRNA Plasmid (h): sc-29922-SH and caspase-1 p20 shRNA (h) Lentiviral Particles: sc-29922-V.

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

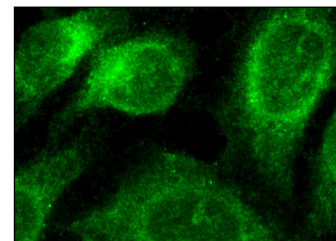
STORAGE

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 (C-15): sc-1780. Western blot analysis of caspase-1 precursor expression in IL-2-induced Jurkat (A) and Jurkat (B) whole cell lysates.



caspase-1 p20 (C-15): sc-1780. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization

SELECT PRODUCT CITATIONS

1. Spyridopoulos, I., et al. 1997. Estrogen-receptor-mediated inhibition of human endothelial cell apoptosis. Estradiol as a survival factor. *Circulation* 95: 1505-1514.
2. Ming, X., et al. 2002. Caspase-1 expression in multiple sclerosis plaques and cultured glial cells. *J. Neurol. Sci.* 197: 9-18.
3. Li, W., et al. 2002. Apoptotic death following Fas activation in human oligodendrocyte hybrid cultures. *J. Neurosci. Res.* 69: 189-196.
4. Hentze, H., et al. 2003. Critical role for cathepsin B in mediating caspase-1-dependent interleukin-18 maturation and caspase-1-independent necrosis triggered by the microbial toxin nigericin. *Cell Death Differ.* 10: 956-968.
5. Guo, Z., et al. 2003. Fas ligation induces IL-1 β -dependent maturation and IL-1 β -independent survival of dendritic cells: different roles of ERK and NF κ B signaling pathways. *Blood* 102: 4441-4447.
6. Kim, Y.S., et al. 2004. Ginsenoside Rh2 induces apoptosis via activation of caspase-1 and -3 and up-regulation of Bax in human neuroblastoma. *Arch. Pharm. Res.* 27: 834-839.
7. Verway, M., et al. 2013. Vitamin D induces interleukin-1 β expression: paracrine macrophage epithelial signaling controls *M. tuberculosis* infection. *PLoS Pathog.* 9: e1003407.

RESEARCH USE

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



Try **caspase-1 (D-3): sc-392736** or **caspase-1 (14F468): sc-56036**, our highly recommended monoclonal alternatives to caspase-1 p20 (C-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **caspase-1 (D-3): sc-392736**.