

# caspase-1 (D-3): sc-392736

## 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 $\beta$  and interleukin18 (IL-18) by proteolytic cleavage of precursor forms into biologically active pro-inflammatory cytokines. Active caspase-1, a (p20/p10)<sub>2</sub> 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; Casp1 (mouse) mapping to 9 A1.

## SOURCE

caspase-1 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 367-391 near the C-terminus of caspase-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

caspase-1 (D-3) is available conjugated to agarose (sc-392736 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-392736 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-392736 PE), fluorescein (sc-392736 FITC), Alexa Fluor<sup>®</sup> 488 (sc-392736 AF488), Alexa Fluor<sup>®</sup> 546 (sc-392736 AF546), Alexa Fluor<sup>®</sup> 594 (sc-392736 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-392736 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-392736 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-392736 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-392736 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

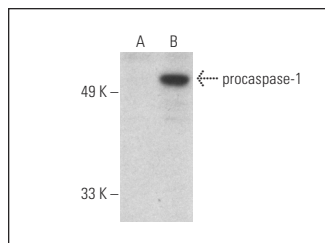
caspase-1 (D-3) is recommended for detection of caspase-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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).

Suitable for use as control antibody for caspase-1 siRNA (h): sc-29235, caspase-1 siRNA (m): sc-29922, caspase-1 siRNA (r): sc-61878, caspase-1 shRNA Plasmid (h): sc-29235-SH, caspase-1 shRNA Plasmid (m): sc-29922-SH, caspase-1 shRNA Plasmid (r): sc-61878-SH, caspase-1 shRNA (h) Lentiviral Particles: sc-29235-V, caspase-1 shRNA (m) Lentiviral Particles: sc-29922-V and caspase-1 shRNA (r) Lentiviral Particles: sc-61878-V.

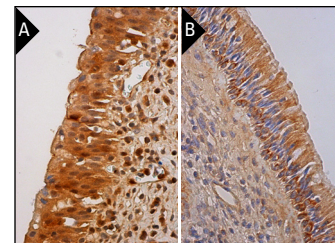
Molecular Weight of caspase-1: 45 kDa.

Positive Controls: human caspase-1 transfected HEK293T whole cell lysate.

## DATA



caspase-1 (D-3): sc-392736. Western blot analysis of procaspase-1 expression in non-transfected (A) and human caspase-1 transfected (B) HEK293T whole cell lysates.



caspase-1 (D-3): sc-392736. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of respiratory epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Wu, M., et al. 2016. Bradykinin receptors and EphB2/EphrinB2 pathway in response to high glucose-induced osteoblast dysfunction and hyperglycemia-induced bone deterioration in mice. *Int. J. Mol. Med.* 37: 565-574.
- Yeo, A.J., et al. 2019. Increased susceptibility of airway epithelial cells from ataxia-telangiectasia to *S. pneumoniae* infection due to oxidative damage and impaired innate immunity. *Sci. Rep.* 9: 2627.
- Mokarizadeh, N., et al. 2020.  $\beta$ -Lapachone attenuates cognitive impairment and neuroinflammation in  $\beta$ -Amyloid induced mouse model of Alzheimer's disease. *Int. Immunopharmacol.* 81: 106300.
- Park, S.K., et al. 2021. *Ecklonia cava* attenuates PM<sub>2.5</sub>-induced cognitive decline through mitochondrial activation and anti-inflammatory effect. *Mar. Drugs* 19: 131.

## RESEARCH USE

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