

caspase-7 p20 (B-5): sc-28295

BACKGROUND

A unique family of cysteine proteases has been described that differs in sequence, structure and substrate specificity from any previously described protease family. This family, CED-3/caspase-1, is comprised of caspase-1, caspase-2, caspase-3, caspase-4, caspase-6, caspase-7 (also designated Mch3, ICE-LAP3 or CMH-1), caspase-9 and caspase-10. CED-3/caspase-1 family members function as key components of the apoptotic machinery and act to destroy specific target proteins which are critical to cellular longevity. Poly(ADP-ribose) polymerase plays an integral role in surveying for DNA mutations and double strand breaks. Caspase-3, caspase-7 and caspase-9, but not caspase-1, have been shown to cleave the nuclear protein PARP into an apoptotic fragment. Caspase-6, but not caspase-3, has been shown to cleave the nuclear lamins which are critical to maintaining the integrity of the nuclear envelope and cellular morphology. Caspase-10 has been shown to activate caspase-3 and caspase-7 in response to apoptotic stimuli.

REFERENCES

1. Tiso, N., et al. 1996. Chromosomal localization of the human genes, CPP32, Mch2, Mch3, and Ich-1, involved in cellular apoptosis. *Biochem. Biophys. Res. Commun.* 225: 983-989.
2. Cohen, G.M. 1997. Caspases: the executioners of apoptosis. *Biochem. J.* 326: 1-16.

CHROMOSOMAL LOCATION

Genetic locus: CASP7 (human) mapping to 10q25.3; Casp7 (mouse) mapping to 19 D2.

SOURCE

caspase-7 p20 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 15-50 near the N-terminus of caspase-7 p20 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

caspase-7 p20 (B-5) is available conjugated to agarose (sc-28295 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28295 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28295 PE), fluorescein (sc-28295 FITC), Alexa Fluor® 488 (sc-28295 AF488), Alexa Fluor® 546 (sc-28295 AF546), Alexa Fluor® 594 (sc-28295 AF594) or Alexa Fluor® 647 (sc-28295 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28295 AF680) or Alexa Fluor® 790 (sc-28295 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-28295 P, (100 µg 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.

APPLICATIONS

caspase-7 p20 (B-5) is recommended for detection of p20 subunit and precursor of caspase-7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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), 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).

caspase-7 p20 (B-5) is also recommended for detection of p20 subunit and precursor of caspase-7 in additional species, including equine.

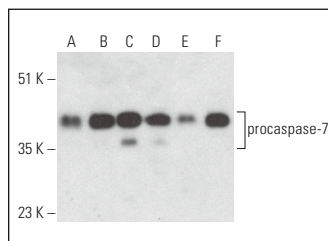
Suitable for use as control antibody for caspase-7 siRNA (h): sc-29929, caspase-7 siRNA (m): sc-29928, caspase-7 shRNA Plasmid (h): sc-29929-SH, caspase-7 shRNA Plasmid (m): sc-29928-SH, caspase-7 shRNA (h) Lentiviral Particles: sc-29929-V and caspase-7 shRNA (m) Lentiviral Particles: sc-29928-V.

Molecular Weight of procaspase-7 splice variants: 28-38 kDa.

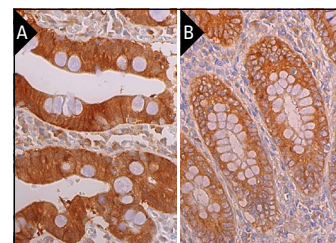
Molecular Weight of caspase-7 p20/caspase-7 p10 subunit: 20/10 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

DATA



caspase-7 p20 (B-5) HRP: sc-28295 HRP. Direct western blot analysis of procaspase-7 expression in CCRF-CEM (A), Jurkat (B), Jurkat + Staurosporine (C), HeLa (D), HeLa + UV (E) and MCF7 (F) whole cell lysates.



caspase-7 p20 (B-5): sc-28295. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Berges, C., et al. 2009. Helenalin suppresses essential immune functions of activated CD4⁺ T cells by multiple mechanisms. *Mol. Immunol.* 46: 2892-2901.
2. Fang, W., et al. 2020. Sur-X, a novel peptide, kills colorectal cancer cells by targeting survivin-XIAP complex. *J. Exp. Clin. Cancer Res.* 39: 82.
3. El-Sheikh Ali, H., et al. 2021. Transcriptomic analysis of equine chorioallantois reveals immune networks and molecular mechanisms involved in nocardioform placentitis. *Vet. Res.* 52: 103.

RESEARCH USE

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