

caspase-6 (14.1.190): sc-81653

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

- Lindahl, T., et al. 1995. Post-translational modification of poly (ADP-ribose) polymerase induced by DNA strand breaks. *Trends Biochem. Sci.* 20: 405-411.
- Duan, H., et al. 1996. ICE-LAP3, a novel mammalian homologue of the *Caenorhabditis elegans* cell death protein Ced-3 is activated during FAS- and tumor necrosis factor-induced apoptosis. *J. Biol. Chem.* 271: 1621-1625.

CHROMOSOMAL LOCATION

Genetic locus: CASP6 (human) mapping to 4q25.

SOURCE

caspase-6 (14.1.190) is a mouse monoclonal antibody raised against the prodomain of caspase-6 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.

APPLICATIONS

caspase-6 (14.1.190) is recommended for detection of caspase-6 of human 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for caspase-6 siRNA (h): sc-72802, caspase-6 shRNA Plasmid (h): sc-72802-SH and caspase-6 shRNA (h) Lentiviral Particles: sc-72802-V.

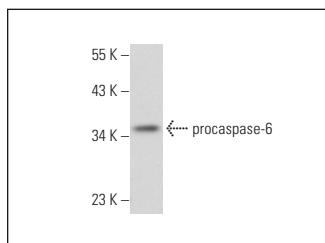
Molecular Weight of caspase-6: 34 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Jurkat + PMA cell lysate: sc-24718 or Jurkat + staurosporine cell lysate: sc-24719.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



caspase-6 (14.1.190): sc-81653. Western blot analysis of procaspase-6 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

- Tubeleviciute-Aydin, A., et al. 2018. Rare human Caspase-6-R65W and Caspase-6-G66R variants identify a novel regulatory region of Caspase-6 activity. *Sci. Rep.* 8: 4428.
- Tubeleviciute-Aydin, A., et al. 2019. Identification of allosteric inhibitors against active Caspase-6. *Sci. Rep.* 9: 5504.
- Zhou, L., et al. 2021. Rare CASP6N73T variant associated with hippocampal volume exhibits decreased proteolytic activity, synaptic transmission defect, and neurodegeneration. *Sci. Rep.* 11: 12695.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.