SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-2_L (35): sc-136218

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Caspase-2 (Nedd2, ICH-1) is an aspartate-specific cysteine protease that is activated in response to various apoptotic stimuli. Caspase-2 is unique among the caspases in that it has features of both upstream caspases (long prodomain) and downstream caspases (DEXD substrate specificity). Caspase-2 is highly expressed in the brain during development, and is expressed at low levels in adult tissue. Specifically, caspase-2 localizes to the mitochondria, the Golgi, the cytoplasm and the nucleus. Caspase-2 exists as two isoforms, caspase-2_L and caspase-2_S, which are produced by alternative splicing and differ in their N- and C-termini. Caspase-2_L acts as a positive regulator of apoptosis, whereas caspase-2_S functions as a negative regulator of apoptosis. Following apoptotic stimuli, the caspase-2_L precursor undergoes cleavage at Asp 153 to produce a fragment (p30). The p30 fragment undergoes further cleavage to generate a fragment containing amino acids 153-308 (p18) and a fragment containing amino acids 317-435 (p13 or p14). As apoptosis progresses, the p13 (p14) fragment can undergo further processing to yield a fragment containing amino acids 331-435 (p12).

REFERENCES

1. Wang, L., Miura, M., Bergeron, L., Zhu, H. and Yuan, J. 1994. ICH-1, an ICE/CED-3-related gene, encodes both positive and negative regulators of programmed cell death. Cell 78: 739-750.
2. Li, H., Bergeron, L., Cryns, V., Pasternack, M.S., Zhu, H., Shi, L., Greenberg, A. and Yuan, J. 1997. Activation of caspase-2 in apoptosis. J. Biol. Chem. 272: 21010-21017.
3. Butt, A., Harvey, N.L., Parasivam, G. and Kumar, S. 1998. Dimerization and autoprocessing of the Nedd-2 (caspase-2) precursor requires both the prodomain and the carboxyl-terminal regions. J. Biol. Chem. 273: 6763-6768.
4. Mancini, M., Machamer, C.E., Roy, S., Nicholson, D.W., Thornberry, N.A., Casciola-Rosen, L.A. and Rosen, A. 2000. Caspase-2 is localized at the Golgi complex and cleaves golgin-160 during apoptosis. J. Cell Biol. 149: 603-612.
5. Droin, N., Beauchemin, M., Solary, E. and Bertrand, R. 2000. Identification of a caspase-2 isoform that behaves as an endogenous inhibitor of the caspase cascade. Cancer Res. 60: 7039-7047.
6. Ito, A., Uehara, T. and Nomura, Y. 2000. Isolation of ICH-1S (caspase-2_S)-binding protein that partially inhibits caspase activity. FEBS Lett. 3: 360-364.
7. SWISS-PROT/TrEMBL (P29594). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html.

CHROMOSOMAL LOCATION

Genetic locus: CASP2 (human) mapping to 7q34.

SOURCE

caspase-2_L (35) is a mouse monoclonal antibody raised against amino acids 225-401 of caspase-2_L of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136218 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

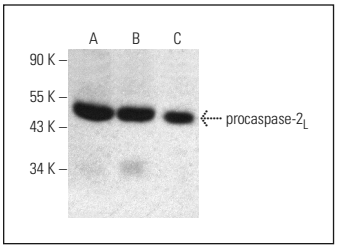
caspase-2_L (35) is recommended for detection of caspase-2_L of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for caspase-2 siRNA (h): sc-29236, caspase-2 shRNA Plasmid (h): sc-29236-SH and caspase-2 shRNA (h) Lentiviral Particles: sc-29236-V.

Molecular Weight of caspase-2_L: 51/13/12 kDa.

Positive Controls: Ramos cell lysate: sc-2216, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

DATA



caspase-2_L (35): sc-136218. Western blot analysis of caspase-2_L expression in Ramos (**A**), Jurkat (**B**) and K-562 (**C**) whole cell lysates.

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 for detailed protocols and support products.