SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-2_L (C-20): sc-625

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).

CHROMOSOMAL LOCATION

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

SOURCE

caspase-2_L (C-20) is available as either rabbit (sc-625) or goat (sc-625-G) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-2_L of human origin.

PRODUCT

Each vial contains either 100 µg (sc-625) or 200 µg (sc-625-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-625 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-2_L (C-20) is recommended for detection of p13 subunit, p12 subunit, caspase-2_L and full length caspase-2 precursor 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with caspase-2S or the p18 subunit.

caspase-2_L (C-20) is also recommended for detection of p13 subunit, p12 subunit, caspase-2_L and full length caspase-2 precursor in additional species, including equine, canine, bovine and porcine.

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.

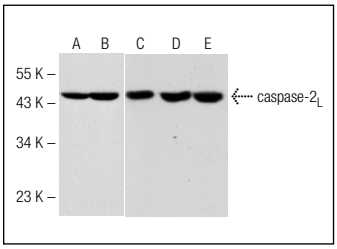
Molecular Weight of caspase-2_L: 51/13/12 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

STORAGE

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

DATA



Western blot analysis of caspase-2_L (ICH-1_L) precursor expression in Jurkat (**A**,**D**), MOLT-4 (**B**,**C**) and HeLa (**E**) whole cell lysates. Antibodies tested include caspase-2_L (C-20)-G: sc-625-G (**A**,**B**) and caspase-2_L (C-20): sc-625 (**C**-**E**).

SELECT PRODUCT CITATIONS

1. Noguchi, K., et al. 1996. Chromosome 22 complements apoptosis in Fas- and TNF-resistant mutant UK110 cells. Oncogene 13: 39-46.
2. Park, S.S. 2004. Involvement of c-Src kinase in the regulation of TGF-β1-induced apoptosis. Oncogene 23: 6272-6281.
3. Shah, N., et al. 2004. Enhancement of stress-induced apoptosis in B-lineage cells by caspase-9 inhibitor. Blood 104: 2873-2878.
4. Yeung, B.H. and Huang, D.C. 2006. PS-341 (bortezomib) induces lysosomal cathepsin B release and a caspase-2-dependent mitochondrial permeabilization and apoptosis in human pancreatic cancer cells. J. Biol. Chem. 281: 11923-11932.
5. West, T., et al. 2006. Caspase-3 deficiency during development increases vulnerability to hypoxic-ischemic injury through caspase-3-independent pathways. Neurobiol. Dis. 22: 523-537.
6. Inoue, S., et al. 2009. Ordering of caspases in cells undergoing apoptosis by the intrinsic pathway. Cell Death Differ. 16: 1053-1061.
7. Palacios C., et al. 2009. Down-regulation of RIP expression by 17-dimethylaminoethylamino-17-demethoxygeldanamycin promotes TRAIL-induced apoptosis in breast tumor cells. Cancer Lett. 287: 207-215.

RESEARCH USE

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