

cleaved caspase-2 p12 (h331): sc-22169

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., et al. 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., et al. 1997. Activation of caspase-2 in apoptosis. *J. Biol. Chem.* 34: 21010-21017.
3. Butt, A., et al. 1998. Dimerization and autoprocessing of the Nedd2 (caspase-2) precursor requires both the prodomain and the carboxyl-terminal regions. *J. Biol. Chem.* 12: 6763-6768.
4. Mancini, M., et al. 2000. Caspase-2 is localized at the Golgi complex and cleaves golgin-160 during apoptosis. *J. Cell Biol.* 149: 603-612.
5. Droin, N., et al. 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., et al. 2000. Isolation of Ich-1S (caspase-2S)-binding protein that partially inhibits caspase activity. *FEBS Lett.* 3: 360-364.

CHROMOSOMAL LOCATION

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

SOURCE

cleaved caspase-2 p12 (h331) is a goat polyclonal antibody raised against a short amino acid sequence containing the neoepitope at Ala 331 of caspase-2 p12 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22169 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cleaved caspase-2 p12 (h331) is recommended for detection of the p12 subunit of caspase-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with p13, p18, caspase-2_S, of full length caspase-2.

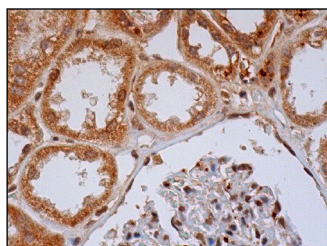
Suitable for use as control antibody for caspase-2 siRNA (h): sc-29236, caspase-2 shRNA Plasmid (h): sc-29236-SH and caspase-2 shRNA (h) Lentiviral Particles: sc-29236-V.

Molecular Weight of cleaved caspase-2 p12: 12 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



cleaved caspase-2 p12 (h331): sc-22169. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear staining of cells in glomeruli and cytoplasmic and nuclear staining of cells in tubules.

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 or our catalog for detailed protocols and support products.