

caspase-2 (F-2): sc-514472

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

- 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.
- Li, H., et al. 1997. Activation of caspase-2 in apoptosis. *J. Biol. Chem.* 34: 21010-21017.

CHROMOSOMAL LOCATION

Genetic locus: CASP2 (human) mapping to 7q34; Casp2 (mouse) mapping to 6 B2.1.

SOURCE

caspase-2 (F-2) is a mouse monoclonal antibody raised against amino acids 153-297 of caspase-2_S 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-2 (F-2) is available conjugated to agarose (sc-514472 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514472 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514472 PE), fluorescein (sc-514472 FITC), Alexa Fluor® 488 (sc-514472 AF488), Alexa Fluor® 546 (sc-514472 AF546), Alexa Fluor® 594 (sc-514472 AF594) or Alexa Fluor® 647 (sc-514472 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514472 AF680) or Alexa Fluor® 790 (sc-514472 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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-2 (F-2) is recommended for detection of caspase-2_S, caspase-2_L, p18 subunit and full length caspase-2 precursor of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for caspase-2 siRNA (h): sc-29236, caspase-2 siRNA (m): sc-29925, caspase-2 siRNA (r): sc-72108, caspase-2 shRNA Plasmid (h): sc-29236-SH, caspase-2 shRNA Plasmid (m): sc-29925-SH, caspase-2 shRNA Plasmid (r): sc-72108-SH, caspase-2 shRNA (h) Lentiviral Particles: sc-29236-V, caspase-2 shRNA (m) Lentiviral Particles: sc-29925-V and caspase-2 shRNA (r) Lentiviral Particles: sc-72108-V.

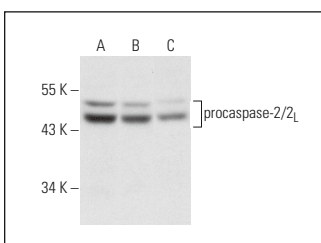
Molecular Weight of caspase-2: 51 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, MOLT-4 cell lysate: sc-2233 or Jurkat whole cell lysate: sc-2204.

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.

DATA



caspase-2 (F-2): sc-514472. Western blot analysis of caspase-2 expression in MOLT-4 (A), Jurkat (B) and HuT 78 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Hetz, R., et al. 2021. Excessive inorganic phosphate burden perturbed intracellular signaling: quantitative proteomics and phosphoproteomics analyses. *Front. Nutr.* 8: 765391.

RESEARCH USE

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