SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-12 (1611): sc-21747

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 composed of caspase-1, caspase-2, caspase-3, caspase-4, caspase-6 and caspase-7 (also designated Mch3, ICE-LAP3 or CMH-1), caspase-9, caspase-10, caspase-14, and caspase-5/caspase-12. 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. Caspase-5 (also designated TY or ICErelIII) can cleave its own precursor, an activity that requires the cysteine 245 residue. The mouse homolog of caspase-5 is designated caspase-12. Frameshift mutations in caspase-5 have been identified in MMP tumors of the endometrium, colon and stomach, indicating that caspase-5 may be a new target gene in the microsatellite mutator pathway for cancer.

CHROMOSOMAL LOCATION

Genetic locus: CASP12 (human) mapping to 11q22.3; Casp12 (mouse) mapping to 9 A1.

SOURCE

caspase-12 (1611) is a rat monoclonal antibody raised against His-tagged fusion protein of caspase-12 (residues 95-318).

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking of caspase-12 activity *in vitro,* sc-21747 L, 200 µg/0.1 ml.

caspase-12 (1611) is available conjugated to agarose (sc-21747 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-21747 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21747 PE), fluorescein (sc-21747 FITC), Alexa Fluor® 488 (sc-21747 AF488), Alexa Fluor® 546 (sc-21747 AF546), Alexa Fluor® 594 (sc-21747 AF594) or Alexa Fluor® 647 (sc-21747 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21747 AF680) or Alexa Fluor® 790 (sc-21747 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

caspase-12 (1611) is recommended for detection of caspase-12 of mouse, rat and 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).

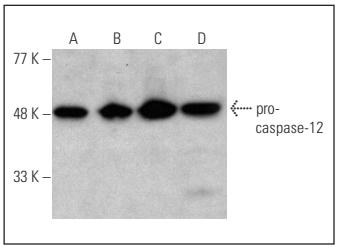
Suitable for use as control antibody for caspase-12 siRNA (h): sc-72797, caspase-12 siRNA (m): sc-29924, caspase-12 siRNA (r): sc-156117, caspase-12 shRNA Plasmid (h): sc-72797-SH, caspase-12 shRNA Plasmid (m): sc-29924-SH, caspase-12 shRNA Plasmid (r): sc-156117-SH, caspase-12 shRNA (h) Lentiviral Particles: sc-72797-V, caspase-12 shRNA (m) Lentiviral Particles: sc-29924-V and caspase-12 shRNA (r) Lentiviral Particles: sc-156117-V.

Molecular Weight of caspase-12: 50 kDa.

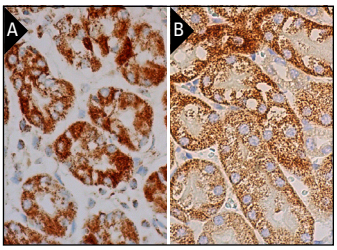
STORAGE

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

DATA



caspase-12 (1611) HRP: sc-21747 HRP. Direct western blot analysis of procaspase-12 expression in NIH/3T3 (**A**), L929 (**B**), EOC 20 (**C**) and BC_3H1 (**D**) whole cell lysates.



caspase-12 (1611): sc-21747. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Chung, L., et al. 2005. Age-related alterations in expression of apoptosis regulatory proteins and heat shock proteins in rat skeletal muscle. Biochim. Biophys. Acta 1762: 103-109.
2. Ogata, T., et al. 2009. Differential cell death regulation between adult-unloaded and aged rat soleus muscle. Mech. Ageing Dev. 130: 328-336.
3. Mizukami, T., et al. 2010. Sodium 4-phenylbutyrate protects against spinal cord ischemia by inhibition of endoplasmic reticulum stress. J. Vasc. Surg. 52: 1580-1586.
4. Qiu, B., et al. 2013. CART attenuates endoplasmic reticulum stress response induced by cerebral ischemia and reperfusion through upregulating BDNF synthesis and secretion. Biochem. Biophys. Res Commun. 436: 655-659.
5. Dirks-Naylor, A.J., et al. 2014. Effects of acute doxorubicin treatment on hepatic proteome lysine acetylation status and the apoptotic environment. World J. Biol. Chem. 5: 377-386.
6. Xiao, B., et al. 2015. Single prolonged stress induces dysfunction of endoplasmic reticulum in a rat model of post-traumatic stress disorder. Mol. Med. Rep. 12: 2015-2020.
7. Li, Y., et al. 2017. Inhibition of endoplasmic reticulum stress signaling pathway: a new mechanism of statins to suppress the development of abdominal aortic aneurysm. PLoS ONE 12: e0174821.
8. Jahanbazi Jahan-Abad, A., et al. 2018. Apoptosis following cortical spreading depression in juvenile rats. Mol. Neurobiol. 55: 4225-4239.

RESEARCH USE

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