**BACKGROUND**

Caspase-3, also known as appain, SCA-1, Yama and CPP32, is an aspartate-specific cysteine protease that belongs to the ICE subfamily of caspases. Caspase-3 is expressed in cells as an inactive precursor from which the p17 and p11 subunits of the mature caspase-3 are proteolytically generated during apoptosis. The caspase-3 precursor is first cleaved at Asp175-Ser176 to produce the p11 subunit and the p20 peptide. Subsequently, the p20 peptide is cleaved at Asp28-Ser29 to generate the mature p17 subunit. The active caspase-3 enzyme is a heterodimer composed of two p17 and two p11 subunits. At the onset of apoptosis, caspase-3 proteolytically cleaves PARP at an Asp216-Gly217 bond. During the execution of the apoptotic cascade, activated caspase-3 releases SREBP from the membrane of the ER in a proteolytic reaction that is distinct from their normal sterol-dependent activation. Caspase-3 cleaves and activates SREBPs between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Caspase-3 also cleaves and activates caspase-6, -7 and -9. The human caspase-3 gene encodes a cytoplasmic protein that is highly expressed in lung, spleen, heart, liver, kidney and cells of the immune system.

**CHROMOSOMAL LOCATION**

Genetic locus: CASP3 (human) mapping to 4q35.1; Casp3 (mouse) mapping to B B1.1.

**SOURCE**

caspase-3 (46) is a mouse monoclonal antibody raised against amino acids 25-145 of caspase-3 of mouse origin.

**PRODUCT**

Each vial contains 50 µg IgG in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136219 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

caspase-3 (46) is recommended for detection of p17 caspase-3 subunit and full length procaspase-3 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for caspase-3 siRNA (m): sc-29827, caspase-3 siRNA (h): sc-29237, caspase-3 shRNA Plasmid (m): sc-29827-SH, caspase-3 shRNA Plasmid (h): sc-29237-SH, caspase-3 shRNA (m) Lentiviral Particles: sc-29237-V and caspase-3 shRNA (h) Lentiviral Particles: sc-29237-V.

Molecular Weight of procaspase-3: 32 kDa.

Molecular Weight of caspase-3 subunits: 11/17/20 kDa.

Positive Controls: caspase-3 (h): 293T Lysate: sc-113427 or Jurkat whole cell lysate: sc-2204.

**STORAGE**

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

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

See **caspase-3 p11 (C-6): sc-271759** for caspase-3 p11 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.