Human/Mouse Caspase-3 Alexa Fluor® 405-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-605-NAV
100 µg

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human Caspase-3.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Caspase-3 Met1-His277 Accession # AAA65015
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Knockout Validated	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunoprecipitation	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Caspase-3 (Cysteine-aspartic acid protease 3/Casp3; also Yama, apopain and CPP32) is a 29 kDa member of the peptidase C14A family of enzymes (1, 2, 3). It is widely expressed and is an integral component of the apoptotic cascade. Caspase-3 is considered to be the major executioner caspase; that is, the primary downstream mediator of apoptotic-associated proteolysis (2, 3, 4). Active Caspase-3 is known to utilize a Cys residue to cleave multiple substrates, including PARP, proIL-16, PKC-γ & -δ, procaspases 6, 7 and 9, and β-catenin (1). Human procaspase-3 is a 32 kDa, 277 amino acid (aa) protein (5, 6, 7). Normally, it is an inactive, cytosolic homodimer, but following an upstream signal that activates processing proteases, procaspase-3 undergoes proteolytic cleavage (1, 2, 8, 9). This generates an N-terminal 175 aa p20/20 kDa subunit plus a 102 aa C-terminal p12/12 kDa subunit, followed by further processing of the p20 subunit at Asp28 to generate a final p17 subunit (aa 29-175) (9). The p17 and p12 subunits noncovalently heterodimerize, and subsequently associate with another p17/p12 heterodimer to form an active antiparallel homodimer. The p17 subunit contains the enzyme active site (aa 161-165), with an embedded catalytic Cys which is normally nitrosylated and inactive. Full activation requires both proteolytic processing and Cys163 denitrosylation (10). Multiple proteases can use Caspase-3 as a substrate including Caspase-6, -8, and -10, granzyme B, and Caspase-3 itself (9, 11, 12, 13).

PRODUCT SPECIFIC NOTICES

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