Human/Mouse Caspase-7 Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: AF823

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Caspase-7 precursor and the small Caspase-7 subunit that is generated during proteolytic activation.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	KLH-coupled mouse Caspase-7 synthetic peptide RHFESQSDDPRFNEKC
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

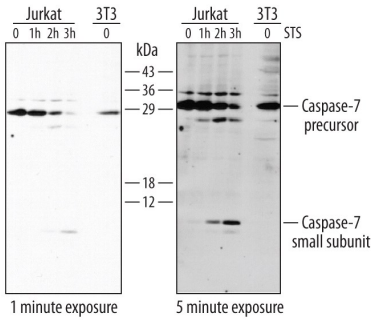
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human and Mouse Caspase-7 Precursor and Small Subunit by Western Blot. Western blot shows lysates of Jurkat human acute T cell leukemia cell line untreated (-) or treated (+) with 1 µM staurosporine (STS) for for the indicated times and NIH-3T3 mouse embryonic fibroblast cell line. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human/Mouse Caspase-7 Polyclonal Antibody (Catalog # AF823), followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). Specific bands were detected for Caspase-7 precursor and small subunit at approximately 32 and 7 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 4.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Caspase-7 (**C**ysteine-**asp**artic acid prote**ase** 7/Casp7; also CMH-1, ICE-LAP3 and Mch3) is a 32 kDa member of the peptidase C14A/IL-1β-converting family of enzymes (1, 2, 3). It is widely expressed, except in brain, and is best known as an integral component of the apoptotic cascade. Caspase-7 is considered to be an executioner caspase, as a downstream mediator of apoptotic-associated proteolysis (2, 3). Upon activation, Caspase-7 is known to utilize a Cys residue to cleave multiple substrates, including PARP, procaspase 6, Gas2 and calpstatin (1). Human procaspase-7 is a 34-36 kDa, 303 amino acid (aa) protein (4, 5, 6). Normally, it is an inactive homodimer (1, 2, 7, 8). But following an upstream signal that activates processing proteases, procaspase-7 undergoes proteolytic cleavage to generate an N-terminal 23 aa propeptide, a 175 aa p20/20 kDa subunit (aa 24-198), and a 105 aa C-terminal p12/12 kDa subunit (5). The p20 and p12 subunits noncovalently heterodimerize, and subsequently associate with another p20/p12 heterodimer to form an active antiparallel homodimer. Additional processing of p20 may remove aa 24-36 to generate p18, while additional processing of p12 will remove aa 199-206 to generate p11 (9, 10). Multiple proteases can use Caspase-7 as a substrate, and include caspase-1, -3, -8, and -10, granzyme B, calpain-1 and Caspase-7 itself (3, 6, 9, 11). Caspase-7 is found in both cytosol and nucleus, and possesses a potential KKKK nuclear localization signal between aa 38-41 that likely undergoes sumoylation (9, 12). There are two potential isoform variants, one which shows an alternate start site 33 aa upstream of the standard start site, and a second that shows a 105 aa substitution for aa 149-303. Human and mouse Caspase-7 are 82% aa identical at the amino acid level.

References:

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