Rabbit anti- human Caspase-3 (CPP32)

Description: Caspase-3 along with caspase 7 and 6 form the group of *effector* caspases that are responsible for the cleavage of multiple substrates including the cytokeratins, PARP, alpha fodrin, NuMA and others. Caspase-7 occurs in three varient forms.

Caspase-3-like activities are required for Fas-mediated apoptosis. However, the role of caspase-1 and caspase-3 in mediating Fas-induced cell death is not clear. Although wild-type, caspase-1(-/-), and caspase-3(-/-) hepatocytes were killed at a similar rate when cocultured with FasL expressing NIH 3T3 cells, caspase-3(-/-) hepatocytes displayed drastically different morphological changes as well as significantly delayed DNA fragmentation. For both wild-type and caspase-1 (-/-) apoptotic hepatocytes, typical apoptotic features such as cytoplasmic blebbing and nuclear fragmentation are seen within 6 hr, but neither event was observed for caspase-3(-/-) hepatocytes. In thymocytes apoptotic caspase-3 (-/-) thymocytes exhibit similar "abnormal" morphological changes and delayed DNA fragmentation observed in hepatocytes. Cleavage of various caspase substrates implicates apoptotic events, including gelsolin, fodrin, laminB, and DFF45/ICAD are delayed or absent. The altered cleavage of these key substrates is likely responsible for the aberrant apoptosis observed in both hepatocytes and thymocytes deficient in caspase-3.

Product: rabbit anti human caspase-3

Form: purified IgG

Formulation: Provided as 0.2μm sterile filtered solution in phosphate buffered saline with 0.08% sodium azide.

Applications: western blot, use at 2-10 μg/ml

Storage: Antibodies should be stored at –20˚C. Aliquot to avoid freeze/thaw cycles.

Stability: Antibodies are stable for one year from purchase if stored frozen.

Ordering Information:	**Form**	**Vial Size**	**Catalog #**
	Purified	100 μg	A130P

References:

1] Ordering the cytochrome c-initiated caspase cascade: hierarchical activation of caspases-2, -3, -6, -7, -8, and -10 in a caspase-9-dependent manner. Slee EA; Harte MT; Kluck RM; Wolf BB; Casiano CA; Newmeyer DD; Wang HG; Reed JC; Nicholson DW; Alnemri ES; Green DR; Martin SJ. J Cell Biol, 144(2):281-92 1999 Jan 25

2] Redox regulation of caspase-3(-like) protease activity: regulatory roles of thioredoxin and cytochrome c. Ueda S; Nakamura H; Masutani H; Sasada T; Yonehara S; Takabayashi A; Yamaoka Y; Yodoi J. J Immunol, 161(12):6689-95 1998 Dec 15

3] Presence of a pre-apoptotic complex of pro-caspase-3, Hsp60 and Hsp10 in the mitochondrial fraction of jurkat cells. Samali A; Cai J; Zhivotovsky B; Jones DP; Orrenius S. EMBO J, 18(8):2040-8 1999 Apr 15

Exalpha Biologicals, Inc., 2 Shaker Rd, #B101, Shirley, MA 01464
Tel: 800.395.1137 or 978.425.1370, Fax: 866.924.5100 or 978.425.1376, Web: www.exalpha.com