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20-1039: Polyclonal antibody to Caspase-3 (Pro and Active)

Clonality :	Polyclonal
Application :	IP,IHC,WB
Reactivity :	Dog,Rat,Mouse,Human
Gene :	CASP3
Gene ID :	836
Uniprot ID :	P42574
Format :	Sera
Alternative Name :	Apopain, Cysteine protease CPP32, Protein Yama, SREBP cleavage activity 1, CPP32
Isotype :	Rabbit IgG
Immunogen Information :	A full-length recombinant protein of human Caspase-3 (pro-form) was used as immunogen for this antibody (Dog, Gerbil, Mouse, Rat not tested in western. 90% sequence homology.)

Description

Apoptosis, or programmed cell death, is a common property of all multicellular organisms. The current dogma of apoptosis suggests that the components of the core cell-death machinery are integral to cells and widely conserved across species. Caspases, a family of cysteinyl aspartate-specific proteases, are integral components of the cell death machinery (reviewed in Siegal, 2006; and Lavrik et al, 2005). They play a central role in the initiation and execution of apoptotic cell death and in inflammation. Caspases are typically divided into 3 major groups, depending on the structure of their prodomain and their function. Group 1: inflammatory caspases (caspases 1, 4, 5, 11, 12, 14). Group II: initiator of apoptosis caspases (caspases 2, 8, 9). Group II: effector caspases (caspases 3, 6, 7). Caspases are synthesized as zymogens (inactive pro enzyme precursors which require a biochemical change to become active enzymes) with an N-terminal prodomain of variable length followed by a large subunit (p20) and a small subunit (p10). Caspases are activated through proteolytic cleavage at specific asparagine residues that are located within the prodomain, the p10, and p20 subunits. Activation results in the generation of mature active caspases that consist of the heterotetramer p202-p102. Active caspases mediate cell death and inflammation through cleavage of particular cellular substrates that are involved in these processes. The Caspase-3 polyclonal antisera recognizes the proform of caspase-3 (approx. 32) kDa), and the large (approx. 14-21 kDa) and small (approx. 10 kDa) subunits of active/cleaved Caspase-3.

Product Info

Amount :	50 µl
Content :	50 µl sera
Storage condition :	Store the antibody at 4°C, stable for 6 months. For long-term storage, store at -20°C. Avoid repeated freeze and thaw cycles.

Application Note

WB: 1:1000-1:2000, IHC (paraffin): 1:1000-1:5000, IHC (frozen): Users should optimize, IP: 1:50-1:200

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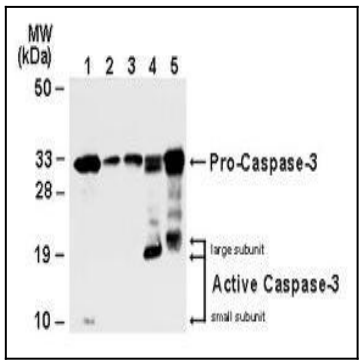

Fig:1 Western blot analysis of Caspase-3. Lysates from Jurkat cells (lane 1), normal mammary tissue (lane 2) and surgical specimens from three invasive ductal carcinomas (lanes 3-5) were normalized for total protein content (50 ug/lane) and Fig:1 Western blotted with anti-Caspase-3 (20-1039). The ~32 kDa pro-Caspase-3 protein was detected in all samples. Active/cleaved Caspase-3 was identified in Jurkat (10 kDa small subunit, lane 1) and two ductal carcinomas (14-21 kDa large subunit).

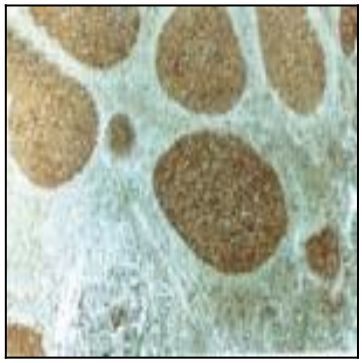

Fig:2 Immunohistochemical analysis of Caspase-3 expression in formalin-fixed, paraffin-embedded human reactive lymph node using 20-1039 at 1:2000. Staining is seen in the apoptosis-prone germinal center B lymphocytes of follicles. In constrast little or no staining is seen in the surrounding long-live mantle zone lymphocytes.

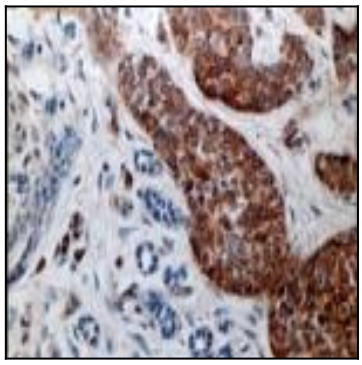

Fig:3 Immunohistochemical analysis of Caspase-3 expression in formalin-fixed, paraffin-embedded human breast ductal carcinoma in situ using 20-1039 at 1:2000. Staining is seen in the the cancerous ducts, but not in the normal lobulus.