

20-1040: Polyclonal antibody to Caspase-3 (active/cleaved)

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 recombinant catalytically active human caspase-3 protein was used as immunogen for this antibody

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 I: inflammatory caspases (caspases 1, 4, 5, 11, 12, 14). Group II: initiator of apoptosis caspases (caspases 2, 8, 9). Group III: 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 p20-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

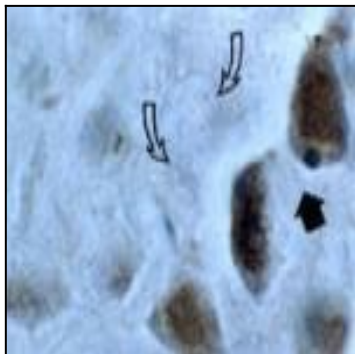


Fig:1 Formalin-fixed, paraffin-embedded section of dog ischemic brain stained for Active/Cleaved Caspase-3 expression using 20-1040 at 1:2000. Staining is seen in the nuclei of dying neurons (black arrow) but not in the morphologically normal nuclei (open arrows). Caspase-3 expression in the nucleus is considered to be a marker of active/caspase-3 expression and apoptosis. Hematoxylin-eosin counterstain.

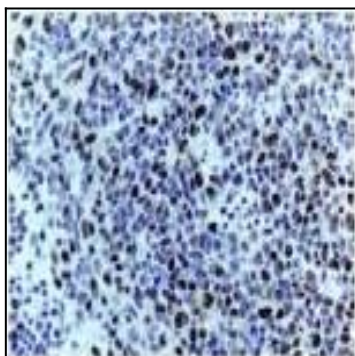


Fig:2 Formalin-fixed, paraffin-embedded section of irradiated mouse spleen stained for Active/Cleaved Caspase-3 expression using 20-1040 at 1:2000. Staining is seen in the nuclei of a subset of the cell population. Caspase-3 expression in the nucleus is considered to be a marker of active/caspase-3 expression and apoptosis. Hematoxylin-eosin counterstain.