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20-1052: Polyclonal antibody to Caspase-14

Clonality :	Polyclonal
Application :	IP,IHC,WB
Reactivity :	Dog,Rat,Mouse,Human
Gene :	CASP14
Gene ID :	23581
Uniprot ID :	P31944
Format :	Sera
Alternative Name :	CASP14
Isotype :	Rabbit IgG
Immunogen Information :	A recombinant full-length human Caspase-14 protein was used as the 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 celldeath machinery are integral to cells and widely conserved across species. 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 (2, 8, 9). Group III: effector caspases (3, 6, 7). Caspases are constitutively expressed in almost all cell types as inactive proenzymes (zymogens: enzyme precursors which require a biochemical change to become active enzymes) that are processed and activated in response to a variety of pro-apoptotic or inflammatory stimuli. The procaspases (32-56 kDa) contain four domains: an N-terminal prodomain (2-25 kDa), a large subunit (p20: 17-21 kDa), a small subunit (p10: 10-13 kDa) and a short linker region between the large and small subunits. Caspase activation involves proteolytic processing of the proenzyme at specific aspartate residues between the domains. This results in removal of the prodomain as well as the linker region and formation of a heterodimer containing one large and one small subunit (p20-p10). Active caspases mediate cell death and inflammation through cleavage of particular cellular substrates that are involved in these processes. Caspase-14 activation has been implicated in keratinocyte senescence which leads to the cornified cell layer, suggesting a role for caspase-14 in epithelial cell differentiation. Tumor-specific alterations in caspase-14 expression have been found in epithelial malignancies, suggesting that caspase-14 plays a role in epithelial cell transformation. This antibody recognizes the proform of caspase-14 (~28-32 kDa), and the large (~14-21 kDa) and small (~10-11 kDa) of active/cleaved caspase-14.

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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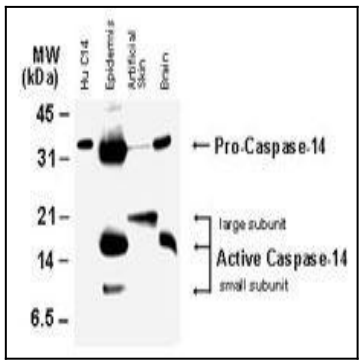

Fig:1 Western blot analysis of Caspase-14. Tissue lysates (50 ug/lane) and recombinant human Caspase-14 were (Hu C14, 15 ng) were Fig:1 Western blotted with Caspase-14 antibody (20-1052) at 1:2000. The antibody detected both the proform of caspase-14, and the large and small subunits of active/cleaved caspase-14.

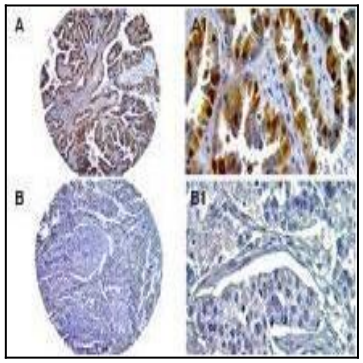

Fig:2 Formalin-fixed paraffin-embedded sections from a human ovarian cancer tissue microarray stained for Caspase-14 expression using 20-1052 antibody at 1:2000. Low (A) and high (B) stage ovarian tumor tissue cores. High magnification from areas of the tissue cores (A1 and B1). Decreased Caspase-14 expression was seen in the high grade, compared to the low grade tumor. Hematoxylin-eosin counterstain.

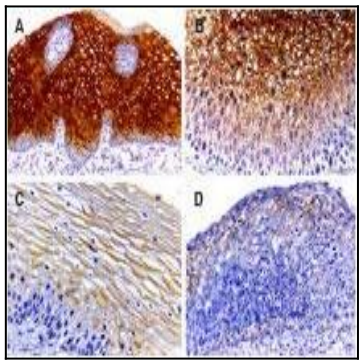

Fig:3 Formalin-fixed paraffin-embedded tissue sections of human cervix stained for Caspase-14 expression using 20-1052 antibody at 1:2000. A. Normal cervix (squamous epithelium). B. CIN1 (low-grade squamous intraepithelial lesion, mild dysplasia). C. CIN2 (high-grade squamous intraepithelial lesion, moderate dysplasia. D. CIN3 (high-grade squamous intraepithelial lesion; severe dysplasia-carcinoma in situ. In normal cervi, caspase-14 staining was found most in the midzone layer, but was absent from the basal/parabasal cell layer where mitotically active cells are known to reside. This suggests induction of caspase-14 expression with differentiation. Caspase-14 expression declined progressively during malignant transformation as the histologic severity of the cervical atypia advanced from CIN1 to CIN3. Hematoxylin-eosin counterstain.