

## CAD Antibody

*CAD (CT): Caspase activated deoxyribonuclease, DNA fragmentation factor 40, DFF40*

**CATALOG NO.: 2011**

### BACKGROUND:

Apoptosis is related to many diseases and induced by a family of cell death receptors and their ligands. Cell death signals are transduced by death domain containing adapter molecules and members of the caspase family of proteases. These death signals finally cause the degradation of chromosomal DNA by activated DNase. A mouse DNase that causes DNA fragmentation was identified recently and designated CAD (for caspase activated deoxyribonuclease) (1,2). The human homologue of mouse CAD was more recently identified by two groups independently and termed CPAN and DFF40 (3,4). Human DFF45 and its mouse homologue ICAD are the inhibitors of CPAN/DFF40 and CAD, respectively (1, 2, 5). Upon cleavage of DFF45/ICAD by activated caspase, DFF40/CAD is released and activated and eventually causes the degradation of DNA in the nuclei (1-4). Activation of CAD/DFF40, which causes DNA degradation, is the hallmark of apoptotic cell death.

### SOURCE:

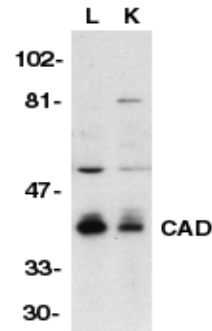
Rabbit polyclonal CAD antibody was raised against a peptide corresponding to amino acids near the carboxy terminus of murine CAD (1).

### APPLICATION:

CAD antibody can be used for detection of CAD by Western blot at 0.5 – 1 µg/ml. (Optimal dilution should be determined by user.) Tissue lysate from murine lung or kidney can be used as positive control and a 40 kDa band should be detected. CAD antibody is mouse specific. **For research use only.**

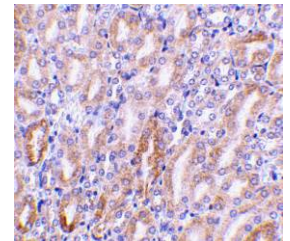
### STORAGE:

CAD antibody is supplied as affinity chromatography purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



Western blot analysis of CAD in murine lung (L) and kidney (K) tissue lysates with CAD antibody at 1 µg/ml.

Immunohistochemistry of CAD in mouse kidney tissue with CAD antibody at 1 µg/ml.



### REFERENCES:

1. Enari M, Sakahira H, Yokoyama H, et al. A caspase-activated DNase that degrades DNA during apoptosis, and its inhibitor ICAD. *Nature* 1998; 391:43-50.
2. Sakahira H, Enari M, and Nagata S. Cleavage of CAD inhibitor in CAD activation and DNA degradation during apoptosis. *Nature* 1998; 391:96-99.
3. Liu X, Li P, Widlak P, et al. The 40-kDa subunit of DNA fragmentation factor induces DNA fragmentation and chromatin condensation during apoptosis. *Proc. Natl. Acad. Sci. USA* 1998; 95:8461-6.
4. Halenbeck R, MacDonald H, Roulston A, et al. CPAN, a human nuclease regulated by the caspase-sensitive inhibitor DFF45. *Curr Biol* 1998; 8:537-40.
5. Liu X, Zou H, Slaughter C, et al. DFF, a heterodimeric protein that functions downstream of caspase-3 to trigger DNA fragmentation during apoptosis. *Cell* 1997; 89:175-184.

(07-01D)