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CAD Antibody

Catalog # ASC10036

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	O54788
Other Accession	O54788, 20137695
Reactivity	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	39449
Conjugate	Unconjugated
Application Notes	CAD antibody can be used for detection of CAD by Western blot at 2 g/mL. A 40 kDa band should be detected. Antibody can also be used for immunohistochemistry starting at 2 g/mL. For immunofluorescence start at 10 g/mL.

Additional Information

Gene ID	13368
Other Names	CAD Antibody: CAD, CPAN, 40kDa, DFF40, Didff, 5730477D02Rik, Cad, DNA fragmentation factor subunit beta, Caspase-activated deoxyribonuclease, CAD, DNA fragmentation factor, beta subunit
Target/Specificity	Dffb;
Reconstitution & Storage	CAD antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	CAD Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Dffb
Synonyms	Cad
Function	Nuclease that induces DNA fragmentation and chromatin condensation during apoptosis. Degrades naked DNA and induces apoptotic morphology.
Cellular Location	Cytoplasm. Nucleus.

Background

CAD Antibody: 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). The human homologue of mouse CAD was more recently identified by two groups independently and termed CPAN and DFF40. Human DFF45 and its mouse homologue ICAD are the inhibitors of CPAN/DFF40 and CAD, respectively. Upon cleavage of DFF45/ICAD by activated caspase, DFF40/CAD is released and activated and eventually causes the degradation of DNA in the nuclei. Activation of CAD/DFF40, which causes DNA degradation, is the hallmark of apoptotic cell death.

References

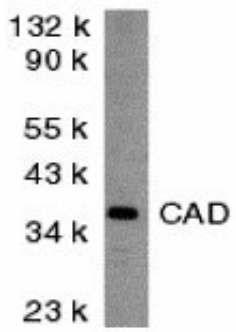
Enari M, Sakahira H, Yokoyama H, Okawa K, Iwamatsu A, Nagata S. A caspase-activated DNase that degrades DNA during apoptosis, and its inhibitor ICAD. Nature 1998;391:43-50

Sakahira H, Enari M, Nagata S. Cleavage of CAD inhibitor in CAD activation and DNA degradation during apoptosis. Nature 1998;391:96-99

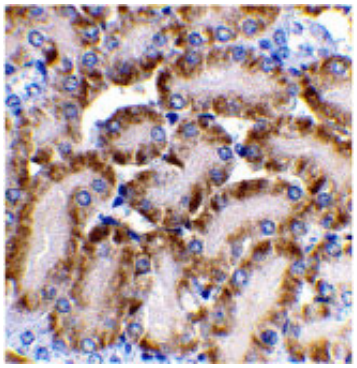
Liu X, Li P, Widlak P, Zou H, Luo X, Garrard WT, Wang X The 40-kDa subunit of DNA fragmentation factor induces DNA fragmentation and chromatin condensation during apoptosis. Proc Natl Acad Sci USA 1998;95:8461-6

Halenbeck R, MacDonald H, Roulston A, Chen TT, Conroy L, Williams LT. CPAN, a human nuclease regulated by the caspase-sensitive inhibitor DFF45. Curr Biol 1998;8:537-40

Images

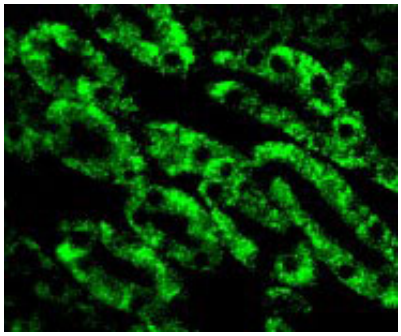


Western blot analysis of CAD in mouse kidney tissue lysate with CAD antibody at 2 µg/mL.



Immunohistochemistry of CAD in mouse kidney tissue with CAD antibody at 2 µg/mL.

Immunofluorescence of CAD in Mouse Kidney cells with CAD antibody at 10 µg/mL.



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