

Caspase-8 (MACH, FADD-like ICE, FLICE, Mch-5, CAP4, MACH-alpha 1) Antibodies

Cat. # CASP82-P	Human Caspase-8 Control Peptide # 2	SIZE: 100 ug
Cat. # CASP82-S	Rabbit Anti-Human Caspase-8 antiserum # 2	SIZE: 100 ul
Cat. # CASP82-A	Rabbit Anti-Human Caspase-8 IgG # 2 (aff pure)	SIZE: 100 ug

Apoptosis or programmed cell death is a fundamental cellular process that is essential for normal tissue development and abnormal growth such as cancer, neurodegeneration, autoimmune diseases, and angiogenesis, etc. Apoptosis is driven by specialized proteases known as **caspases**. After the initial discovery of the first mammalian caspase 1 or ICE (interleukin 1 beta converting enzyme), a growing family of **caspases 1-14** have been cloned and characterized. Caspases are synthesized as inactive zymogen or proenzyme forms (30-55 kDa), which upon apoptotic stimulation are proteolytically processed (self or by other proteins) in a sequential manner into their active heterotetrameric forms. The processed form consists of large subunit (17-20 kDa) and a small (10-12 kDa) subunits, which may associate to form an active enzyme. Functionally active caspases initiate a proteolytic cascade, capable of cleaving and activating numerous cellular targets including PARP, G4-GDI, DFF, MEKK, etc. On a functional basis, two categories of caspases have been defined: the **initiator caspases** (caspases-8, -9, and -10) are activated in the earlier phases of apoptosis, whereas the **executioner caspases** (caspases-3, -6, and -7) are activated by initiator caspases and are responsible for dismantling cellular components. Caspases are widely distributed in various tissues and cells.

Caspase-8, also known as (**MACH, FADD-like ICE, FLICE, Mch-5, CAP4, MACH-alpha 1**) human proenzyme is 479 aa (mouse 480 aa, rat 482 aa). It is the most upstream protease of the activation of caspases responsible for CD95 and TNFR-1 induced cell death. It cleaves and activates caspases-3, -4, -6, -7, -9, and -10. It is a heterodimer of a 19 kDa (p18) and 10 kDa (p10) subunits. Caspase-8 is alternatively spliced into at least 8 isoforms (1-4 alpha, 1-4 beta). Alpha 1 and beta-1 are expressed in a many tissues. Highest expression is observed in peripheral blood, leukocytes, spleen, thymus and liver. Lower expression is seen in brain and testis.

Source of Antigen and Antibodies

Antigen	15-aa peptide within the p18 domain of human Caspase-8 (1); Designation (CASP82-P, control peptide) . Epitope location ~ p18 domain
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat # CASP82-S) and aff pure IgG (cat # CASP82-A) purified over the antigen column
2ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder

Supplied in Buffer: 0.05% azide

Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder

Supplied in **Buffer:** PBS+0.1% BSA

Reconstitute powder in PBS at 1 mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder

Supplied in Buffer: PBS pH 7.5,

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). Caspase pro-enzyme is ~55 kDa that is processed to generate heterodimer of p18 and p10/12.

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested.

Specificity & Cross-reactivity

Human CASP82-P control peptide is 69% conserved in mouse caspase-8. No significant sequence homology is detected with other caspases. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (detailed protocol is available at the web site).

General References:

Boldin MP et al (1996) Cell, 85, 803; Muzio M et al (1996) Cell 85, 817; Grenet J et al (1999) Gene 226, 225-232; Van de Craen et al (1999) Gene accession # AJ007749

*This product is for In vitro research use only.

Related material available from ADI

Antibodies AIF, Apaf-1, Cytochrome-C, Caspases, IAPs, Survivin, EPR-1, CARD, Flash, Aven, Livin, Iceberg

CASP82-S-A-P 71214S