CELL APPLICATIONS, INC.

Caspase-8 Antibody

Cat. No. CA0689

Applications:	**WB, IHC**
Detected MW:	**55 & 10 kDa**
Species & Reactivity:	**Human, Mouse, Rat, Rabbit**
Isotype:	**Rabbit IgG**

BACKGROUND

Caspases, short for cysteinyl aspartate proteases, are involved in the signal transduction pathways of apoptosis, necrosis and inflammation. These enzymes can be divided into two major classes: initiators and effectors. The initiator isoforms (Caspases-1,-4,-5,-8,-9,-10,-11,-12) are activated by, and interact with, upstream adaptor molecules through protein-protein interaction domains known as CARD and DED. Effector Caspases (-3,-6,-7) are responsible for cleaving downstream substrates and are sometimes referred to as the executioner Caspases. More than 400 Caspase substrates have so far been identified. Initiator Caspases, such as Caspase 8, may be directly activated by death receptors such as FasR. Caspases can also be found intracellularly as part of large multiprotein complexes. For example, Caspase 9 is recruited to the apoptosome formed during apoptosis, whilst Caspases-1 and 5 can form part of the inflammasome, a key part of cytokine processing during inflammation. Caspases are regulated by inhibitors of apoptosis and by dominant negative isoforms. They have been implicated in the pathogenesis of many disorders including stroke, Alzheimer's disease, myocardial infarction, cancer, and inflammatory disease.[1]

Caspases exist as inactive proenzymes which undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. Sequential activation of Caspases plays a central role in the execution-phase of cell apoptosis.[2] Most upstream protease of the activation cascade of Caspases responsible for the TNFRSF6/FAS mediated and TNFRSF1A induced cell death. The N-terminal FADD-like death effector domain of Caspase-8 interacts with Fas-interacting protein FADD, which recruits it to either receptor. The resulting aggregate called death-inducing signaling complex (DISC) performs Caspase-8 proteolytic activation.[3] The active dimeric enzyme is then liberated from the DISC and free to activate downstream apoptotic proteases. Proteolytic fragments of the N-terminal propeptide (termed CAP3, CAP5 and CAP6) are likely retained in the DISC. It cleaves and activates CASP3, CASP4, CASP6, CASP7, CASP9 and CASP10.

References:

1. Riedl, S.J. & Shi, Y.: Nature Rev. Mol. Cell Biol. 5:897-907, 2004
2. Nickolson, D.W. et al: Nature 367:37-43, 1995
3. Bidere, N. et al: Curr. Biol. 16:1666-71, 2006

TECHNICAL INFORMATION

Source: Anti-Caspase-8 is a rabbit polyclonal antibody raised against a peptide mapping at the N-terminal of the enzyme's p10 subunit of rat origin, different to the related human sequence by a single amino acid.

Specificity and Sensitivity: Anti-Caspase-8 reacts specifically with Caspase-8 of human, rabbit, mouse & rat origin in Immunohistochemical staining and western blotting, no cross-reactivity with other members of the family.

Storage Buffer: PBS and 30% glycerol.

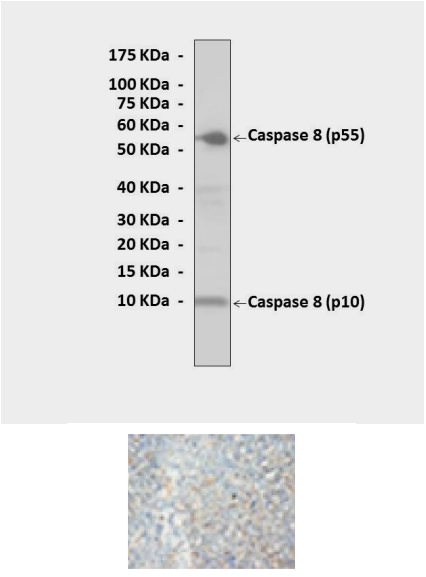
Storage: Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:500 – 1:1000
IP	n/d
IHC	1:50 – 1:200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Detection of Caspase-8 from rat brain tissue lysate in Western blot assay, using Anti-Caspase-8 Antibody. **Bottom:** Immunohistochemical staining of paraffin-embedded human oval cancer tissue, using Anti-Caspase-8 Antibody.