



**DELTA
BIOLABS**

DB007: caspase-2_L (C20)

Background:

Caspases is a family of mammalian proteases that regulate many of the morphological and biochemical features of apoptosis. The currently identified caspases can be divided into three groups: apoptotic initiators, apoptotic executioners, and inflammatory mediators (1,2). Caspase-2, 8, and 9 have been identified as apoptotic initiators (3,4). Caspase-2 (also designated Nedd-2/ICH-1) can be alternatively spliced to produce two distinct Caspase-2 mRNA species. One mRNA species encodes a protein of 435 amino acids in length and the mRNA splice variant encodes a 312 amino acid protein. The larger protein, Caspase-2_L, in an over expressed state, leads to programmed cell death. Conversely the over expression of Caspase-2_S protein, a truncated version of Caspase-2_L, has been shown to suppress cell death induced by serum deprivation (5). The executioner caspases include caspase-3, 6 and 7. Of these three proteases Caspase-3 is considered to be the essential for the chromatin margination, DNA fragmentation, and nuclear collapse during apoptosis (6). Caspase-1 (also known as ICE) is considered to be a mediator of the inflammatory response by converting the inactive precursor of interleukin-1 to the 17 kDa proinflammatory cytokine, IL-1 (7,8).

Origin:

Caspase-2_L (also known as Ich-1_L) is provided as an affinity purified rabbit polyclonal antibody, raised against a peptide mapping to the carboxy terminal of human caspase-2_L.

Product Details:

Each vial contains 200 µg/ml of affinity purified rabbit IgG, caspase-2_L *DB007 (C20)*, in 1 ml PBS containing 0.1 % sodium azide and 0.2% gelatin.

Competition Studies:

A blocking peptide is also available, *DB007P*, for use in competition studies. Each vial contains 100 µg of peptide in 0.5 ml PBS with 0.1% sodium azide and 100 µg BSA.

Specificity:

Caspase-2_L *DB007 (C20)* reacts with caspase-2_L p12 subunit and precursor of mouse, rat, and human origin by western blotting, immunoprecipitation and immunohistochemistry.

Storage:

Store this product at 4° C, do not freeze. The product is stable for one year from the date of shipment.

References:

1. Edadah BA, Faden AI. 2000. Caspase pathways, neuronal apoptosis, and CNS injury. *Journal of Neurotrauma* 17(10): 811-829
2. Salvesen GS, Dixit VM. 1999. Caspase activation: the induced-proximity model. *Proc Natl Acad Sci USA* 96(20): 10964-10967
3. Zhang W, He Q, Chan LL, Zhou F, El Naghy M, Thompson EB, Ansari NH. 2001. Involvement of caspases in 4-hydroxy-alkenal-induced apoptosis in human leukemic cells. *Free Radic Biol Med* 30(6): 699-706
4. Kruidering M, Evan GI. 2000. Caspase-8 in apoptosis: the beginning of "the end" ? *IUBMB* 50(2): 85-90
5. Wang L, Miura M, Bergeron L, Zhu H, Yuan J. 1994. Ich-1, an Ice/ced-3-related gene, encodes both positive and negative regulators of programmed cell death. *Cell* 78(5): 739-750
6. Slee EA, Adrain C, Martin SJ. 2001. Executioner caspase-3, -6, and -7 perform distinct, non-redundant roles during the demolition phase of apoptosis. *J Biol Chem* 276(10): 7320-7326
7. Kostura MJ, Tocci MJ, Limjuco G, Chin J, Cameron P, Hillman AG, Chartrain NA, Schmidt JA. 1989. Identification of a monocyte specific pre-interleukin 1 convertase activity. *Proc Natl Acad Sci USA* 86(14): 5227-5231
8. Wilson KP, Black JA, Thompson JA, Kim EE, Griffith JP, Navia MA, Murcko MA, Chambers SP, Aldape RA, Raybuck SA, Livingston DJ. 1994. Structure and mechanism of interleukin-1 converting enzyme. *Nature* 370(6487): 251-252