Product Information

# Caspase 10 human

Recombinant, expressed in *E. coli*, lyophilized powder

**C6607**

## Product Description

Synonyms: Flice2; Mch4

Caspase 10 (Flice2, Mch4) is a member of the interleukin-1β converting enzyme (ICE) family of cysteine proteases. Similar to other caspases, caspase 10 exists in cells as an inactive pro-enzyme. The caspase pro-enzymes contain N-terminal pro-sequences of various lengths, followed by a large subunit (17-22 kDa) and a small subunit (10-12 kDa). In some cases, the subunits in the pro-enzyme are separated by a linker that may be involved in regulation of activation of the caspase. During apoptosis, pro-caspase 10 is processed at aspartate residues by self-proteolysis and/or cleavage by upstream caspases. The processed form of caspase 10 consists of large (21 kDa) and small (10 kDa) subunits, which associate to form the active enzyme.[1-3]

All caspases contain an active-site pentapeptide of the general structure QACXG (where X is R, Q, or G). The amino acids Cys-285 and His-237 involved in catalysis and those involved in forming the P1 carboxylate binding pocket (Arg-179, Gln-283, Arg-341, and Ser-347) are conserved in all caspases, except for the substitution of Thr for Ser-347 in caspase 8. This explains the absolute requirement for an Asp in the P1 position. Residues forming the P2–P4 binding pocket are not well conserved. This suggests that such residues may determine the substrate specificities of the caspases.[2]

This product has been cited in the research literature.[4]

## Product

The product is supplied as a lyophilized powder containing 0.052% ammonium sulfate, 0.158% Trizma®-HCl, and 0.76% NaCl.

Specific Activity: ~8,000 units/mg protein

Unit Definition: One unit will hydrolyze 1 nmole of the caspase substrate Ile-Glu-Thr-Asp-*p*-nitroanilide (IETD-pNA) to *p*-nitroaniline per hour at pH 7.2 at 37 °C. For assay of caspase 10, the reaction buffer contains 50 mM HEPES, pH 7.2, 50 mM NaCl, 0.1% CHAPS, 10 mM EDTA, 5% glycerol, and 10 mM DTT.

## Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

The product ships on dry ice and storage at −70 °C is recommended. Repeated freezing and thawing is **not** recommended.

## Preparation Instructions

Reconstitute in phosphate buffered saline (PBS). Store solutions in aliquots at −70 °C.

## References


1. Cohen, G.M., *Biochem. J.*, **326(Pt 1),** 1-16 (1997).
2. Nicholson, D.W., and Thornberry, N.A., *Trends Biochem. Sci.*, **22(8),** 299-306 (1997).
3. Wachmann, K., *et al.*, *Biochemistry*, **49(38)**, 8307-8315 (2010).
4. Poreba, M., *et al.*, *Nat. Protoc.*, **12(10)**, 2189-2214 (2017).


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