

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-1 β 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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C6607dat Rev 03/22 RBG,GCY,MAM

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