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ProductInformation

Caspase Combo III Human, recombinant Type 6, 8, 9, and 10 (Active)

Product Number **C 8357**
Storage Temperature -70°C

Product Description

Caspase Combo III is supplied as one 25 unit vial of each of the following active caspases:

caspase 6 (Product No. C 7482)

caspase 8 (Product No. C 7732)

caspase 9 (Product No. C 7857)

caspase 10 (Product No. C 7982)

All are recombinant, human caspases expressed in *E. coli*.

Caspases are a family of cysteine proteases that share similarities in their amino acid sequences, structure, and substrate specificity. They are highly specific with an absolute requirement for cleavage after aspartic acid. A preferred tetrapeptide recognition sequence is a major point of differentiation among the caspases. Group III caspases have the consensus recognition sequence (I/V/L)EXD.¹

Caspases are divided into three classes based on variability in the recognition sequence for positions two through four of the tetrapeptide. Group III includes caspase 6, 8, 9, and 10. Group III caspases play a prominent role as initiators in the apoptotic process.² Caspases 8 and 9 directly cleaves to and activates ProCasp-3, which initiates additional caspase activation and apoptosis.³

Caspase Combo III is useful for the screening of caspase inhibitors, for studying enzyme kinetics and regulation, for determining target substrates as well as for serving as positive controls in caspase activity assays and Western Blot Analysis.

Each enzyme in Caspase Combo III is supplied as a lyophilized solid containing 0.052% ammonium sulfate, 0.158% Tris-HCl, and 0.76% sodium chloride.

Unit Definition: One unit will cleave 1 nmole of the caspase substrate VEID-pNA (for caspase 6), IETD-pNA (for caspases 8 and 10), or LEHD-pNA (for caspase 10) per hour at pH 7.2 at 37°C .

Precautions and Disclaimer

This product is for laboratory use only. Please consult the Material Data Safety Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at -70°C is recommended. Upon reconstitution with phosphate buffered saline, the enzymes should be aliquoted and stored at -70°C . Avoid repeated freeze-thaw cycles.

References

1. Thornberry, N. A., *et al.*, A combinatorial approach defines specificities of members of the caspase family and granzyme B. Functional relationships established for key mediators of apoptosis. *J. Biol. Chem.*, **272**, 17907-17911 (1997).
2. Thornberry, N. A. and Y. Lazebnik, Caspases: enemies within. *Science*, **281**, 1312-1316 (1998).
3. Cardone, M.H., *et al.*, Regulation of cell death protease caspase-9 by phosphorylation. *Science*, **282**, 1318-1321 (1998).

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