

## Product Information

### Caspase Combo I Human, recombinant Type 1, 4, and 5 (Active)

Product Number **C 8107**  
Storage Temperature  $-70\text{ }^{\circ}\text{C}$

#### Product Description

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

caspase 1 (Product No. C 5482)

caspase 4 (Product No. C 6357)

caspase 5 (Product No. C 6482)

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 I caspases have the consensus recognition sequence WEHD.<sup>1</sup>

Caspases are normally divided into three classes based on variability in the recognition sequence for positions two through four of the tetrapeptide. Group I includes caspase 1, 4, and 5. Caspase 1, originally identified as interleukin- $1\beta$  converting enzyme, was the first of the caspase class to be identified. Group I caspases have been identified as being primarily involved in the production of inflammatory cytokines.<sup>2</sup>

Caspase Combo I 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 I 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 YVAD-pNA (for caspase 1) or WEHD-pNA (for caspases 4 and 5) per hour at pH 7.2 at  $37\text{ }^{\circ}\text{C}$ .

#### 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  $-70\text{ }^{\circ}\text{C}$  is recommended. Upon reconstitution with phosphate buffered saline, the enzymes should be aliquoted and stored at  $-70\text{ }^{\circ}\text{C}$ . 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).

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