

PRODUCT INFORMATION



Caspase-14 (human, recombinant)

Item No. 43693

Overview and Properties

Synonyms:	CASP-14, MICE, Mini-interleukin-1 Converting Enzyme
Source:	Recombinant human N-terminal His-tagged caspase-14 expressed in <i>E. coli</i>
Amino Acids:	2-242 (full length)
Uniprot No.:	P31944
Molecular Weight:	28.5 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥98% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4.

Protein

Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Caspase-14 is a cysteinyl aspartic protease.¹⁻³ It is expressed during embryonic development and in differentiating keratinocytes and localizes to the cytoplasm and nucleus.^{2,3} Caspase-14 is produced as a zymogen containing a large and small subunit and is activated via proteolytic cleavage by kallikrein 7 (KLK7).⁴ It is involved in keratinocyte differentiation, cornification, UVB protection, and profilaggrin degradation.¹ A SNP in *CASP14*, the gene encoding caspase-14, is associated with ichthyosis.⁵ Cayman's Caspase-14 (human, recombinant) protein consists of 248 amino acids and has a calculated molecular weight of 28.5 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 30 kDa.

References

1. Sahoo, G., Samal, D., Khandayataray, P., *et al.* A review on caspases: Key regulators of biological activities and apoptosis. *Mol. Neurobiol.* **60(10)**, 5805-5837 (2023).
2. Hu, S., Snipas, S.J., Vincenz, C., *et al.* Caspase-14 is a novel developmentally regulated protease. *J. Biol. Chem.* **273**, 29648-29653 (1998).
3. Lippens, S., Kockx, M., Knaapen, M., *et al.* Epidermal differentiation does not involve the pro-apoptotic executioner caspases, but is associated with caspase-14 induction and processing. *Cell Death Differ.* **7(12)**, 1218-1224 (2000).
4. Yamamoto, M., Miyai, M., Matsumoto, Y., *et al.* Kallikrein-related peptidase-7 regulates caspase-14 maturation during keratinocyte terminal differentiation by generating an intermediate form. *J. Biol. Chem.* **287(39)**, 32825-32834 (2012).
5. Kirchmeier, P., Zimmer, A., Bouadjar, B., *et al.* Whole-exome-sequencing reveals small deletions in *CASP14* in patients with autosomal recessive inherited ichthyosis. *Acta Derm. Venereol.* **97(1)**, 102-104 (2017).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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