

# Recombinant Mouse CASP3 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP51505

Size: 10ug, 100ug

Protein Name: Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (LICE) (Protein Yama) (SREBP cleavage activity 1) (SCA-1) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]

Synonym: Casp3, Cpp32

UniProt ID: P70677

UniProt Link: [www.uniprot.org/uniprotkb/P70677/entry](http://www.uniprot.org/uniprotkb/P70677/entry)

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 277 AA

Molecular Weight: 31 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MENNKTSVDSKSINNFEVKTIHGSKSVDSGIYLDSSYKMDYPEMGICIIINNKNFHKSTGMSSRSGTD  
VDAANLRETFMGLKYQVRNKNDLTREDILELMDSVSKEDHSKRSSFVCVILSHGDEGVIYGTNGPVE  
LKKLTSFFRGDYCRSLTGKPKLFIIQACRGTELDGCIETDSGTDEEMACQKIPVEADFLYAYSTAPGY  
YSWRNSKDGSWFIQSLCSMLKLYAHKLEFMHILTRVNRKVATEFESFSLDSTFHAKKQIPCIVSMLTK  
ELYFYH

## 3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (LICE) (Protein Yama) (SREBP cleavage activity 1) (SCA-1) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein Function:** Thiol protease that acts as a major effector caspase involved in the execution phase of apoptosis (PubMed:16469926, PubMed:8934524). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:16469926, PubMed:8934524). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 at a '216-Asp-Gly-217' bond. Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Cleaves and activates caspase-6, -7 and -9 (CASP6, CASP7 and CASP9, respectively). Cleaves and inactivates interleukin-18 (IL18) (By similarity). Triggers cell adhesion in sympathetic neurons through RET cleavage (By similarity). Also involved in axon pruning during brain development (PubMed:24478350). Cleaves DSG2 in response to apoptosis resulting in a loss of full length DSG2 at desmosome cell junctions and subsequent loss of cell-cell adhesion (By similarity). Also cleaves JUP in response to apoptosis (By similarity). Cleaves IL-1 beta between an Asp and an Ala, releasing the mature cytokine which is involved in a variety of inflammatory processes (By similarity). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:12124386). Acts as an inhibitor of type I interferon production during virus-induced apoptosis by mediating cleavage of antiviral proteins CGAS, IRF3 and MAVS, thereby preventing cytokine overproduction (PubMed:30878284). Also involved in pyroptosis by mediating cleavage and activation of gasdermin-E (GSDME) (By similarity). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:25231987, PubMed:33725486). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (By similarity).

**Subcellular Localization:** Cytoplasm .

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.