

Recombinant Rat CASP3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52401

Size: 10ug, 100ug

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

Synonym: Casp3, Cpp32

UniProt ID: P55213

UniProt Link: www.uniprot.org/uniprotkb/P55213/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 277 AA

Molecular Weight: 31 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDNNETSVDSKSINNFETKTIHGSKSMDSGIYLDSSYKMDYPEMGLCIIINNKNFHKSTGMSARNGTD
VDAANLRETFMALKYEVNRNKNDLTREEIMELMDSVSKEDHSKRSSFVCVILSHGDEGVIFGTNGPVD
LKKLTSFFRGDYCRSLTGKPKLFIIQACRGTELDGCIETDSGTDDDMACQKIPVEADFLYAYSTAPGY
YSWRNSRDGSWFIQSLCAMLKLYAHKLEFMHILTRVNRKVATEFESFSLDATFHAKKQIPCIVSMLTK
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) (IRP) (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: Involved in the activation cascade of caspases responsible for apoptosis execution. 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). Triggers cell adhesion in sympathetic neurons through RET cleavage (By similarity). Also involved in axon pruning during brain development (By similarity). 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. 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. 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 (By similarity). 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.