

Recombinant Rat CASP6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52202

Size: 10ug, 100ug

Protein Name: Caspase-6 (CASP-6) (EC 3.4.22.59) (Apoptotic protease Mch-2) [Cleaved into: Caspase-6 subunit p18; Caspase-6 subunit p11]

Synonym: Casp6, Mch2

UniProt ID: O35397

UniProt Link: www.uniprot.org/uniprotkb/O35397/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 277 AA

Molecular Weight: 32 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTETDGFYRSREVLDPAEQYKMDHKRRGTALIFNHERFFWHLALPERRGTNADRDNPTRRFSELGF
EVKCFNDLRAEELLLKIHEVSTSSHVDADCFLCVFLSHGEGNHIYAYDAKIEIQTLTGLFKGDKCQSLV
GKPKIFIIQACRGSQHDVPLVPLDVVDHQTDKLDDNVTQVDAASVYTL PAGADFLMCYSVAEGYYSH
RETVNGSWYIQDLSEMLARHGSSLEFTELLTLVNRKVSQRRVDFCKDPGAIGKKQVPCFASMLTKKL
HFCPKPSK

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-6 (CASP-6) (EC 3.4.22.59) (Apoptotic protease Mch-2) [Cleaved into: Caspase-6 subunit p18; Caspase-6 subunit p11] 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: Cysteine protease that plays essential roles in programmed cell death, axonal degeneration, development and innate immunity (By similarity). Acts as a non-canonical executioner caspase during apoptosis: localizes in the nucleus and cleaves the nuclear structural protein NUMA1 and lamin A/LMNA thereby inducing nuclear shrinkage and fragmentation. Lamin-A/LMNA cleavage is required for chromatin condensation and nuclear disassembly during apoptotic execution (By similarity). Acts as a regulator of liver damage by promoting hepatocyte apoptosis: in absence of phosphorylation by AMP-activated protein kinase (AMPK), catalyzes cleavage of BID, leading to cytochrome c release, thereby participating in nonalcoholic steatohepatitis. Cleaves PARK7/DJ-1 in cells undergoing apoptosis (By similarity). Involved in intrinsic apoptosis by mediating cleavage of RIPK1. Furthermore, cleaves many transcription factors such as NF-kappa-B and cAMP response element-binding protein/CREBBP (By similarity). Cleaves phospholipid scramblase proteins XKR4 and XKR9. In addition to apoptosis, involved in different forms of programmed cell death. Plays an essential role in defense against viruses by acting as a central mediator of the ZBP1-mediated pyroptosis, apoptosis, and necroptosis (PANoptosis), independently of its cysteine protease activity. PANoptosis is a unique inflammatory programmed cell death, which provides a molecular scaffold that allows the interactions and activation of machinery required for inflammasome/pyroptosis, apoptosis and necroptosis. Mechanistically, interacts with RIPK3 and enhances the interaction between RIPK3 and ZBP1, leading to ZBP1-mediated inflammasome activation and cell death. Plays an essential role in axon degeneration during axon pruning which is the remodeling of axons during neurogenesis but not apoptosis. Regulates B-cell programs both during early development and after antigen stimulation (By similarity).

Subcellular Localization: Cytoplasm . Nucleus .

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.