

Recombinant Mouse BAP1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51864

Size: 10ug, 100ug

Protein Name: Ubiquitin carboxyl-terminal hydrolase BAP1 (EC 3.4.19.12) (BRCA1-associated protein 1) (Ubiquitin C-terminal hydrolase X4) (UCH-X4)

Synonym: Bap1, Kiaa0272

UniProt ID: Q99PU7

UniProt Link: www.uniprot.org/uniprotkb/Q99PU7/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 728 AA

Molecular Weight: 80 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MNKGWLELESDPGLFTLLVEDFGVKG VQVEEIYDLQSKCQGPVYGFIFLFKWIEERRSRRKVSTLVD
DTSVIDDDIVNNMFFAHQLIPNSCATHALLSVLLNCSNVDLGPTLSRMKDFTKGFSPESKGYAIGNAP
ELAKAHNSHARPEPRHLPEKQNGLSAVRTMEAFHFVSYPITGRLFELDGLKVYPIDHGPWGEDEE
WTDKARRVIMERIGLATAGEPYHDIRFNLMAVVPDRRIKYETRLHVLKVN RQTVLEALQQLIRVTQPE
LIQTHKSQESQLPEESKPASSKSPLGLEAGRTPVASECTQTDGAEVAGSCPQTTTHSPPSKCKLVV
KPPGSSLNGVPPNPAPIVQRLPAFLDNHNYAKSPMQEEEDLAAGVGRSRVPVVRAPQQYSEDEDDY
EDEDEDVQNTNPAIRYKRKGTGKPGSLSNSSDGQLSVLQPN TINVLTEKLQESQKDL SVPLSIKTSS
GAGSPAVAVPTH SQPSPTPSNESTDTASEIGSAFNSPLRSP IRSANPTRPSSPVTSHISKVLFGEDDS
LLRVD CIRYNRAVRDLGPVISTGLLHLAEDGVL SPLALTEGGKGSSPSTRSSQGSQGSSGLEEKEVV
EVTESRDKPGLNRSSEPLSGEKYSPKELLALLKCVEAEIANYEACLKEEVEKRKKFKIDDQRRTHNYD
EFICTFISMLAQEGMLANLVEQNISVRRRQGV SIGRLHKQRKPDRRKRSRPYKAKRQ

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 Ubiquitin carboxyl-terminal hydrolase BAP1 (EC 3.4.19.12) (BRCA1-associated protein 1) (Ubiquitin C-terminal hydrolase X4) (UCH-X4) 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: Deubiquitinating enzyme that plays a key role in chromatin by mediating deubiquitination of histone H2A and HCFC1 (By similarity) (PubMed:35446349). Catalytic component of the polycomb repressive deubiquitinase (PR-DUB) complex, a complex that specifically mediates deubiquitination of histone H2A monoubiquitinated at 'Lys-120' (H2AK119ub1) (By similarity) (PubMed:32747411, PubMed:35446349). Does not deubiquitinate monoubiquitinated histone H2B (By similarity). The PR-DUB complex is an epigenetic regulator of gene expression and acts as a transcriptional coactivator, affecting genes involved in development, cell communication, signaling, cell proliferation and cell viability (By similarity) (PubMed:32747411, PubMed:35446349). Antagonizes PRC1 mediated H2AK119ub1 monoubiquitination (By similarity). As part of the PR-DUB complex, associates with chromatin enriched in histone marks H3K4me1, H3K4me3, and H3K27Ac, but not in H3K27me3 (By similarity) (PubMed:32747411). Acts as a regulator of cell growth by mediating deubiquitination of HCFC1 N-terminal and C-terminal chains, with some specificity toward 'Lys-48'-linked polyubiquitin chains compared to 'Lys-63'-linked polyubiquitin chains. Deubiquitination of HCFC1 does not lead to increase stability of HCFC1. Interferes with the BRCA1 and BARD1 heterodimer activity by inhibiting their ability to mediate ubiquitination and autoubiquitination. It however does not mediate deubiquitination of BRCA1 and BARD1. Able to mediate autodeubiquitination via intramolecular interactions to counteract monoubiquitination at the nuclear localization signal (NLS), thereby protecting it from cytoplasmic sequestration (By similarity). Negatively regulates epithelial-mesenchymal transition (EMT) of trophoblast stem cells during placental development by regulating genes involved in epithelial cell integrity, cell adhesion and cytoskeletal organization (PubMed:34170818).

Subcellular Localization: Cytoplasm . Nucleus . Chromosome . Note=Mainly nuclear. Binds to chromatin. Localizes to the cytoplasm when monoubiquitinated by the E2/E3 hybrid ubiquitin-protein ligase UBE2O (By similarity). Recruitment to chromatin is dependent on ASXL1/2/3 and recruitment to specific genes on FOXK1/2 (PubMed:32747411). Nuclear localization is redundantly mediated by the importin and transportin systems; TNPO1/transportin-1 is the major mediator of nuclear localization (By similarity).

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.