



Recombinant Human E3 ubiquitin-protein ligase parkin (PRKN)

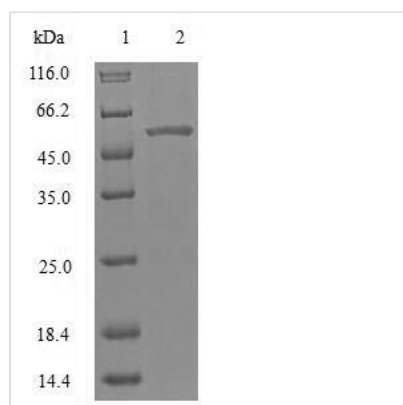
Product Code	CSB-BP017451HU
Relevance	Functions within a multiprotein E3 ubiquitin ligase complex, catalyzing the covalent attachment of ubiquitin moieties onto substrate proteins, such as BCL2, SYT11, CCNE1, GPR37, RHOT1/MIRO1, MFN1, MFN2, STUB1, SNCAIP, SEPT5, TOMM20, USP30, ZNF746 and AIMP2 . Mediates monoubiquitination as well as 'Lys-6', 'Lys-11', 'Lys-48'-linked and 'Lys-63'-linked polyubiquitination of substrates depending on the context. Participates in the removal and/or detoxification of abnormally folded or damaged protein by mediating 'Lys-63'-linked polyubiquitination of misfolded proteins such as PARK7: 'Lys-63'-linked polyubiquitinated misfolded proteins are then recognized by HDAC6, leading to their recruitment to aggresomes, followed by degradation. Mediates 'Lys-63'-linked polyubiquitination of a 22 kDa O-linked glycosylated isoform of SNCAIP, possibly playing a role in Lewy-body formation. Mediates monoubiquitination of BCL2, thereby acting as a positive regulator of autophagy. Promotes the autophagic degradation of dysfunctional depolarized mitochondria (mitophagy) by promoting the ubiquitination of mitochondrial proteins such as TOMM20, RHOT1/MIRO1 and USP30. Preferentially assembles 'Lys-6'-, 'Lys-11'- and 'Lys-63'-linked polyubiquitin chains following mitochondrial damage, leading to mitophagy. Mediates 'Lys-48'-linked polyubiquitination of ZNF746, followed by degradation of ZNF746 by the proteasome; possibly playing a role in the regulation of neuron death. Limits the production of reactive oxygen species (ROS). Regulates cyclin-E during neuronal apoptosis. In collaboration with CHPF isoform 2, may enhance cell viability and protect cells from oxidative stress. Independently of its ubiquitin ligase activity, protects from apoptosis by the transcriptional repression of p53/TP53. May protect neurons against alpha synuclein toxicity, proteasomal dysfunction, GPR37 accumulation, and kainate-induced excitotoxicity. May play a role in controlling neurotransmitter trafficking at the presynaptic terminal and in calcium-dependent exocytosis. May represent a tumor suppressor gene.
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	O60260
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MIVFVRFNSSHGFPVEVDS DTSIFQLKEVVAKRQGV PADQLRVIFAGKELRND WTVQNC DL DQQSIVHIVQRPWRKGQEMNATGGDDPRNAAGGCEREPQSLT RVDLSSSVLP GDSVGLAVILHTDSRKD SP P AGSPAGRSIYNSFYVYCKGPCQR VQPGKLRVQCSTCRQATLTLTQGPSCWDDVLIPNRM SGECQSPHCPGTSAE



FFFKCGAHPTSDKETSVALHLIATNSRNITCITCTDVRSPVLVFQCNSRHVICLD
CFHLYCVTRLNDRQFVHDPQLGYSLPCVAGCPNSLIKELHHFRILGEEQYNRY
QQYGAEECVLQMGGVLCPRPGCGAGLLPEPDQRKVTCEGGNGLGCGFAFC
RECKEAYHEGECSAVFEASGTTTQAYRVDERAAEQARWEAASKETIKTTKP
CPRCHVPVEKNGGCMHMKCPQPQCRLEWCWNCGCEWNRVCMGDHWFVDV

Lead Time	3-7 business days
Research Area	Neuroscience
Source	Baculovirus
Gene Names	PRKN
Protein Names	Parkin RBR E3 ubiquitin-protein ligaseParkinson juvenile disease protein 2
Expression Region	1-465aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	55.6kDa
Protein Description	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The recombinant human PRKN protein is encoded by a recombinant DNA that was cloned into the expression vector and then transformed into the Baculovirus that supports the expression of the gene. The recombinant DNA was constructed by fusing the N-terminal 10xHis tag and C-terminal Myc tag gene to the gene fragment coding for the 1-465aa of the human PRKN protein. After purification, the product is the recombinant human PRKN protein. This recombinant PRKN protein was subjected to the SDS-PAGE determination. Its purity reaches over 85% evaluated by BandsScan software analysis combined with SAS-PAGE. This PRKN protein ran to the molecular weight of about 55 kDa under SDS-PAGE condition.

E3 ubiquitin ligase (also called PRKN) protein functions to recruit an E2 ubiquitin-conjugating enzyme. PRKN interact with the target protein and the E2 enzyme. Therefore, it could impart substrate specificity to the E2. In particular, ubiquitination by PRKN mediates the complex biological process like



homeostasis, cell trafficking, and DNA repair. Also, the signaling PRKN involved play crucial roles in cell biology, which could be associated with some famously molecular like MDM2 and BRCA1 that play a part in various cancers. Moreover, based on current researches, mutations in PRKN gene are known to cause Parkinson disease and autosomal recessive juvenile Parkinson disease.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.