# Recombinant Human E3 ubiquitin-protein ligase parkin (PRKN)

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| **Product Code** | CSB-EP017451HU |
| **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 roval 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 assbles '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 |
| **Abbreviation** | Recombinant Human PRKN protein |
| **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 |
| **Alias** | Parkinson juvenile disease protein 2 ;Parkinson disease protein 2 |
| **Product Type** | Recombinant Protein |
| **Immunogen Species** | Homo sapiens (Human) |
| **Purity** | Greater than 90% as determined by SDS-PAGE. |
| **Sequence** | MIVFVRFNSSHGFPVEVDSDTSIFQLKEVVAKRQGVPADQLRVIFAGKELRND |

WTVQNCDLDQQSIVHIVQRPWRKGQEMNATGGDDPRNAAGGCEREPQSLT
RVDLSSSVLPGDSVGLAVILHTDSRKDSPPAGSPAGRSIYNSFYVYCKGPCQR
VQPGKLRVQCSTCRQATLTLTQGPSCWDDVLIPNRMSGECQSPHCPGTSAE
FFFKCGAHPTSDKETSVALHLIATNSRNITCITCTDVRSPVLVFQCNSRHVICLD
CFHLYCVTRLNDRQFVHDPQLGYSLPCVAGCPNSLIKELHHFRILGEEQYNRY
QQYGAEECVLQMGGVLCPRPGCGAGLLPEPDQRKVTCEGGNGLGCGFAFC
RECKEAYHEGECSAVFEASGTTTQAYRVDERAAEQARWEAASKETIKKTTKP
CPRCHVPVEKNGGCMHMKCPQPQCRLEWCWNCGCEWNRVCMGDHWFDV

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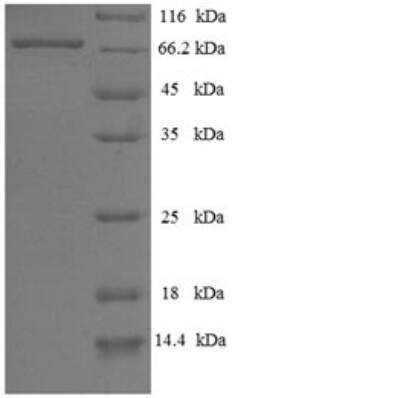
| **Research Area** | Apoptosis |
| **Source** | E.coli |
| **Target Names** | PRKN |
| **Expression Region** | 1-465aa |
| **Notes** | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| **Tag Info** | N-terminal 6xHis-SUMO-tagged |
| **Mol. Weight** | 67.6kDa |
| **Protein Length** | Full Length |

**Image**




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

**Description**

The recombinant Human PRKN was expressed with the amino acid range of 1-465. This PRKN protein is expected to have a theoretical molecular weight of 67.6 kDa. This PRKN recombinant protein is manufactured in e.coli. The PRKN coding gene included the N-terminal 6xHis-SUMO tag, which simplifies the detection and purification processes of the recombinant PRKN protein in following stages of expression and purification.

Parkin (PRKN) is an E3 ubiquitin-protein ligase that plays a crucial role in the regulation of protein degradation through the ubiquitin-proteasome system. It is primarily known for its involvement in maintaining mitochondrial homeostasis and mitophagy, the selective removal of damaged or dysfunctional mitochondria. PRKN helps identify and ubiquitinate proteins on the surface of damaged mitochondria, marking them for degradation. This process is vital for cellular quality control, preventing the accumulation of defective mitochondria and maintaining cellular health. Research areas involving PRKN include

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| | neurodegenerative diseases, particularly Parkinson's disease, as mutations in the PRKN gene are associated with familial forms of the disorder. Understanding Parkin's function and dysregulation in disease conditions may provide insights into therapeutic strategies for neurodegenerative disorders and contribute to broader knowledge of cellular quality control mechanisms. |
| **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. |
| **Shelf Life** | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.<br>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. |