Untagged Parkin E3 Ligase

Cat. # UB318

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Background

Parkin, an E3 ubiquitin ligase encoded by the human PARK2 gene, is primarily localized in the cytosol. Upon mitochondrial damage, cytosolic Parkin is phosphorylated by the mitochondria-associated kinase PINK1, which activates Parkin's E3 ligase function. Once activated, Parkin ubiquitinates substrate proteins, targeting them for degradation via the ubiquitin-proteasome or lysosomal pathways. It plays a critical role in mitophagy, the selective autophagic removal of damaged mitochondria, and is a key player in maintaining mitochondrial quality control. While the full spectrum of Parkin's functions is still under investigation, mutations in PARK2 are known to cause autosomal recessive juvenile Parkinson's disease (AR-JP), a familial form of Parkinson's disease.

Alternate Names

PARK2, AR-JP, Parkinson Disease (Autosomal Recessive, Juvenile) 2, Parkin, E3 Ubiquitin-Protein Ligase Parkin, Parkin RBR E3 Ubiquitin-Protein Ligase, Parkinson Disease Protein 2, LPRS2.

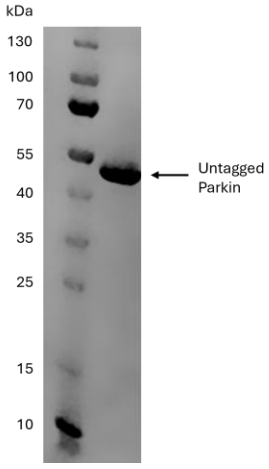
Application(s)

- SDS-PAGE
- TR-FRET assay
- Investigation of the Parkin and PINK1 mitophagy pathway
- Research and drug discovery applications

Product Specifications

Affinity Tag	None
Purity	≥ 95% by SDS-PAGE
Molecular Weight	51.6 kDa
Quantity	25 µg
Species	Human
Expression System	*E. coli*
Physical State	Liquid
Buffer	50 mM Tris, pH 7.5, 0.15 M NaCl, 10% Glycerol
Activity	A typical enzyme concentration of 5-100 nM is used for in vitro conjugation, depending on assay conditions
Stability & Storage	Over 1 year at -80℃. Avoid repeated freeze/thaw cycles

Product QC



SDS-Page Analysis. Purified untagged Parkin. Four micrograms of the protein was loaded on a 10-20% SDS-PAGE gel and stained with Coomassie brilliant blue.

References

1. Ge, P., Et al., Molecular Neurodegeneration 15, 20 (2020).
2. Quinn, P. M. J., et al., Acta Neuropathologica Communications 8, 189 (2020).