Active Recombinant Human PRKN protein

Cat. No. PRKN-210H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human PRKN containing a substitution at Cys431Ser was expressed in Insect cells.
Species	Human
Source	Insect Cells
Description	The E3 Ubiquitin ligase Parkin (encoded by the PARK2 gene) is an essential part of the cellular machinery that participates in the removal of damaged mitochondria. Mutations in PARK2 are known to cause a form of Parkinson's disease known as autosomal recessive juvenile Parkinson's disease (AR-JP), and the mechanisms by which defective Parkin ligase contributes to the dopaminergic cell death in this disease is an area of intense investigation. Reported substrates for Parkin include BCL2, GPR37, MIRO1, MFN1, MFN2, TOMM20, USP30, and many others. Parkin (an RBR-class Ubiquitin ligase) structures have recently been reported by multiple groups, and reveal that the ligase is folded upon itself to produce an auto-inhibited state. The auto-inhibition is relieved by interactions with PINK1 kinase (which can phosphorylate both Parkin and Ubiquitin at serine residue number 65) and pS65 phospho-Ubiquitin by mechanisms that are under investigation. In vitro, wild-type Parkin may be activated by treatment with recombinant PINK1, or addition of low concentrations of pS65-phosphoubiquitin. Parkin has been reported to generate poly-Ubiquitin chains in K6, K11, K48, and K63 linkages both in vitro and in

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	vivo. This recombinant protein is untagged, and is not active as determined by an autoubiquitination assay--it is intended as a negative control.
Form	X mg/ml (X μM) in 25 mM Tris pH 8.5, 200 mM NaCl, 0.03% Brij 35, 10% (v/v) Glycerol, 5 mM TCEP
Bio-activity	Reaction conditions will need to be optimized for each specific application. As supplied, Parkin C431S has no E3 ligase activity as determined by the lack of autoubiquitination in an in vitro assay.
Molecular Mass	Predicted Molecular Mass: 52 kDa
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -70 centigrade as supplied. 3 months, -70 centigrade under sterile conditions after opening.

GENE INFORMATION

Gene Name	PRKN parkin RBR E3 ubiquitin protein ligase [Homo sapiens]
Official Symbol	PRKN
Synonyms	PDJ; AR-JP; LPRS2; PARK2
Gene ID	5071
mRNA Refseq	NM_004562
Protein Refseq	NP_004553
UniProt ID	O60260

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