PARK2 Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	PARK2, Monoclonal Antibody
Full Product Name	PARK2 (E3 Ubiquitin-protein Ligase Parkin, PRKN, Parkinson Juvenile Disease Protein 2, Parkinson Disease Protein 2) (MaxLight 490)
Product Gene Name	anti-PARK2 antibody
Clonality	Monoclonal
Isotype	IgG3,k
Clone Number	1H4
Host	Mouse
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight490.
Purity/Purification	Purified by Protein A Affinity Chromatography.
Specificity	Recognizes human PARK2.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amo only prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight490 conjugates are sensitive to light. For maximum recov of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	~68 kDa
Chromosome Location	Chromosome: 6; NC_000006.11 (161768590..163148834, complement). Location: 6q25.2-q27
OMIM	168600
3D Structure	ModBase 3D Structure for O60260
Immunogen	Partial recombinant corresponding to aa288-388 from human PARK2 (AAH22014) with GST tag. MW of the GST tag alone is 26kD.
Immunogen Sequence	PCVGTGDTVVLRGALGGFRRGVAGCPNSLIKELHHFRILGEEQYNRYQQYGAEECVLQMGGVLCPRPGCGAGLLPEPDQRKVTCEGGNGLGCGYGQR
Conjugate	MaxLight490
Product Categories/Family for anti-PARK2 antibody	Antibodies; Ubiquitin Ligases
Applications Tested/Suitable for anti-PARK2 antibody	FLISA, Immunofluorescence (IF), Western Blot (WB)
Application Notes for anti-PARK2 antibody	IF: 10ug/ml Applications are based on unconjugated antibody.

Related Product Information for anti-PARK2 antibody	MBS6202306 is an antibody targeting PARK2. Also known as PARK2 (E3 Ubiquitin-protein Ligase Parkin, PRKN, Parkinson Juvenile Disease Protein 2 Parkinson Disease Protein 2) (MaxLight 490). Reactive in Human. Host: Mouse.
Other Notes	Small volumes of anti-PARK2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PARK2. It may not necessarily be applicable to this product.

NCBI GI #	34191069
NCBI GeneID	5071
NCBI Accession #	BC022014
NCBI Related Accession #	AAH22014
UniProt Primary Accession #	O60260
UniProt Secondary Accession #	Q5TFV8; Q6Q2I6; Q8NI41; Q8NI43; Q8NI44; Q8WW07; A3FG77; A8K975
UniProt Related Accession #	O60260
NCBI Official Full Name	Homo sapiens Parkinson disease (autosomal recessive, juvenile) 2, parkin, mRNA
NCBI Official Synonym Full Names	parkinson protein 2, E3 ubiquitin protein ligase (parkin)
NCBI Official Symbol	PARK2
NCBI Official Synonym Symbols	PDJ; PRKN; AR-JP; LPRS2
UniProt Protein Name	E3 ubiquitin-protein ligase parkin
UniProt Synonym Protein Names	Parkinson juvenile disease protein 2
Protein Family	E3 ubiquitin-protein ligase
UniProt Gene Name	PARK2
UniProt Synonym Gene Names	PRKN; Parkinson disease protein 2
UniProt Entry Name	PRKN2_HUMAN
NCBI Protein Information	E3 ubiquitin-protein ligase parkin; parkinson juvenile disease protein 2; Parkinson disease (autosomal recessive, juvenile) 2, parkin
NCBI Summary for PARK2	The precise function of this gene is unknown; however, the encoded protein is a component of a multiprotein E3 ubiquitin ligase complex that mediates the targeting of substrate proteins for proteasomal degradation. Mutations in this gene are known to cause Parkinson disease and autosomal recessive juvenile Parkinson disease. Alternative splicing of this gene produces multiple transcript variants encoding distinct isoforms. Additional splice variants of this gene have been described but currently lack transcript support. [provided by RefSeq, Jul 2008]

UniProt Comments for PARK2	PARK2: a component of a multiprotein E3 ubiquitin ligase complex, catalyzing the covalent attachment of ubiquitin moieties onto substrate proteins, such as BCL2, SYT11, CCNE1, GPR37, STUB1, a 22 kDa O-linked glycosylated isoform of SNCAIP, SEPT5, ZNF746 and AIMP2. Mediates monoubiquitination as well as '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 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. Mediates 'Lys-48'-linked polyubiquitination of ZNF746, followed by degradation of ZNF746 by the proteasome; possibly playing a role in role in regulation of neuron death. Limits the production of reactive oxygen species (ROS). Loss of this ubiquitin ligase activity appears to be the mechanism underlying pathogenesis of PARK2. 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. Regulates cyclin-E during neuronal apoptosis. May represent a tumor suppressor gene. Forms an E3 ubiquitin ligase complex with UBE2L3 or UBE2L6. Mediates 'Lys-63'-linked polyubiquitination by associating with UBE2V1. Part of a SCF-like complex, consisting of PARK2, CUL1 and FBXW7. Part of a complex, including STUB1, HSP70 and GPR37. The amount of STUB1 in the complex increases during ER stress. STUB1 promotes the dissociation of HSP70 from PARK2 and GPR37, thus facilitating PARK2-mediated GPR37 ubiquitination. HSP70 transiently associates with unfolded GPR37 and inhibits the E3 activity of PARK2, whereas, STUB1 enhances the E3 activity of PARK2 through promotion of dissociation of HSP70 from PARK2-GPR37 complexes. Interacts with PSMD4 and PACRG. Interacts with LRRK2. Interacts with RANBP2. Interacts with SUMO1 but not SUMO2, which promotes nuclear localization and autoubiquitination. Interacts (via first RING- type domain) with AIMP2 (via N-terminus). Interacts with PSMA7 and RNF41. Interacts with PINK1. Highly expressed in the brain including the substantia nigra. Expressed in heart, testis and skeletal muscle. Expression is down-regulated or absent in tumor biopsies, and absent in the brain of PARK2 patients. Overexpression protects dopamine neurons from kainate-mediated apoptosis. Found in serum. Belongs to the RBR family. Parkin subfamily. 6 isoforms of the human protein are produced by alternative splicing. Protein type: EC 6.3.2.19; Ubiquitin conjugating system; Ubiquitin ligase; EC 6.3.2.-; Ligase Chromosomal Location of Human Ortholog: 6q25.2-q27 Cellular Component: Golgi apparatus; neuron projection; mitochondrion; perinuclear region of cytoplasm; endoplasmic reticulum; cytoplasm; SCF ubiquitin ligase complex; cytosol; nucleus; ubiquitin ligase complex Molecular Function: tubulin binding; identical protein binding; ubiquitin binding; zinc ion binding; histone deacetylase binding; ubiquitin-protein ligase activity; Hsp70 protein binding; actin binding; protein kinase binding; PDZ domain binding; protein binding; G-protein-coupled receptor binding; ubiquitin conjugating enzyme binding; chaperone binding; ubiquitin protein ligase binding; heat shock protein binding; SH3 domain binding; kinase binding; ligase activity Biological Process: protein monoubiquitination; proteasomal ubiquitin-dependent protein catabolic process; negative regulation of JNK cascade; negative regulation of actin filament bundle formation; protein polyubiquitination; startle response; central nervous system development; adult locomotory behavior; regulation of protein ubiquitination; protein ubiquitination during ubiquitin-dependent protein catabolic process; regulation of neurotransmitter secretion; protein ubiquitination; mitochondrion localization; norepinephrine metabolic process; dopamine metabolic process; regulation of dopamine secretion; negative regulation of insulin secretion; negative regulation of glucokinase activity; zinc ion homeostasis; regulation of lipid transport; negative regulation of protein amino acid phosphorylation; dopamine uptake; negative regulation of neuron apoptosis; positive regulation of DNA binding; synaptic transmission, glutamatergic; mitochondrial fission; mitochondrion organization and biogenesis; protein autoubiquitination; positive regulation of I-kappaB kinase/NF-kappaB cascade; protein stabilization; transcription, DNA-dependent; learning; regulation of protein transport; cellular protein catabolic process; positive regulation of proteasomal ubiquitin-dependent protein catabolic process; mitochondrion degradation; positive regulation of transcription from RNA polymerase II promoter; regulation of autophagy; response to oxidative stress Disease: Parkinson Disease 2, Autosomal Recessive Juvenile; Leprosy, Susceptibility To, 2; Lung Cancer; Ovarian Cancer
Research Articles on PARK2	**1.** Decreased parkin solubility is identified in postmortem Alzheimer's disease brains.

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