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PARK8 (LRRK2) Antibody (L955)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7099h

Specification

PARK8 (LRRK2) Antibody (L955) - Product Information

Application	IF, WB,E
Primary Accession	Q5S007
Other Accession	NP_940980
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Antigen Region	930-961

PARK8 (LRRK2) Antibody (L955) - Additional Information

Gene ID 120892

Other Names
Leucine-rich repeat serine/threonine-protein kinase 2, Dardarin, LRRK2, PARK8

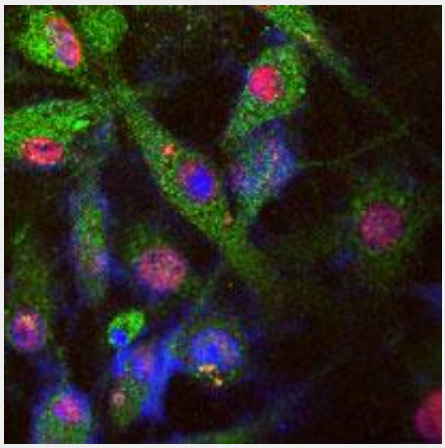
Target/Specificity
This PARK8(LRRK2) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 930-961 amino acids from human PARK8(LRRK2).

Dilution
IF~~1:10~50
WB~~1:1000

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
PARK8 (LRRK2) Antibody (L955) is for



Tau-stable SY5Y cell image stained for endogenous LRRK (green) by Abgent L955a (affinity purified), phosphorylated tau (red, monoclonal AT8) and nuclear staining by DAPI.

PARK8 (LRRK2) Antibody (L955)(Cat.#AP7099h) detect over-expressed human LRRK2 protein.

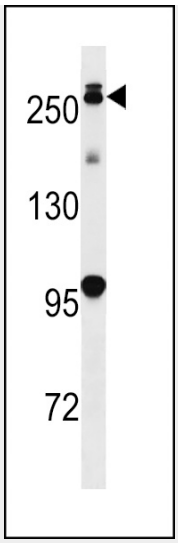
research use only and not for use in diagnostic or therapeutic procedures.

PARK8 (LRRK2) Antibody (L955) - Protein Information

Name LRRK2

Synonyms PARK8

Function
Serine/threonine-protein kinase which phosphorylates a broad range of proteins involved in multiple processes such as neuronal plasticity, autophagy, and vesicle trafficking (PubMed:20949042, PubMed:22012985, PubMed:26824392, PubMed:29125462, PubMed:28720718, PubMed:29127255, PubMed:30398148, PubMed:29212815, PubMed:30635421, PubMed:21850687, PubMed:23395371, PubMed:17114044, PubMed:24687852, PubMed:<a href="http://www.uniprot.org/citations/26014385"



Park8 (LRRK2) Antibody (L955) (Cat. #AP7099h) western blot analysis in mouse lung tissue lysates (35ug/lane).This demonstrates the Park8 (LRRK2) antibody detected the Park8 (LRRK2) protein (arrow).

PARK8 (LRRK2) Antibody (L955) - Background

Parkinson is the second most common neurodegenerative disease after Alzheimers. About 1 percent of people over the age of 65 and 3 percent of people over the age of 75 are affected by the disease. The mutation is the most common cause of Parkinson's disease identified to date. LRRK2, a genetic mutation, was recently found linked to about 5 percent of inherited cases of Parkinson's disease. By high-resolution recombination mapping and candidate gene sequencing in 46 families, 6 disease-segregating mutations (5 missense and 1 putative splice site mutation). It may be central to the pathogenesis of several major neurodegenerative disorders associated with parkinsonism. LRRK2 belongs to the ROCO protein family and includes a protein kinase domain of the MAPKKK class and several other major functional domains.

PARK8 (LRRK2) Antibody (L955) - References

Shen J. Neuron. 2004. 44:575.
Paisan-Ruiz C, et al. Neuron. 2004. 44(4):595.
Zimprich A, et al. Neuron. 2004. 44(4):601.
Wszolek ZK, et al. Neurology. 2004. 62(9):1619.

target="_blank">26014385, PubMed:25201882). Is a key regulator of RAB GTPases by regulating the GTP/GDP exchange and interaction partners of RABs through phosphorylation (PubMed:26824392, PubMed:28720718, PubMed:29127255, PubMed:30398148, PubMed:29212815, PubMed:29125462, PubMed:30635421). Phosphorylates RAB3A, RAB3B, RAB3C, RAB3D, RAB5A, RAB5B, RAB5C, RAB8A, RAB8B, RAB10, RAB12, RAB35, and RAB43 (PubMed:26824392, PubMed:28720718, PubMed:29127255, PubMed:30398148, PubMed:29212815, PubMed:29125462, PubMed:30635421, PubMed:23395371). Regulates the RAB3IP-catalyzed GDP/GTP exchange for RAB8A through the

Park YJ, et al. Transplant Proc. 2004. 36(2):353.
Zimprich A, et al. Am J Hum Genet. 2004. 74:11.
Bonifati V. Lancet Neurol. 2002. 1:83.
Funayama M, et al.Ann Neurol. 2002. 51:296.

phosphorylation of 'Thr-72' on RAB8A (PubMed:26824392). Inhibits the interaction between RAB8A and GDI1 and/or GDI2 by phosphorylating 'Thr- 72' on RAB8A (PubMed:26824392). Regulates primary ciliogenesis through phosphorylation of RAB8A and RAB10, which promotes SHH signaling in the brain (PubMed:29125462, PubMed:30398148). Together with RAB29, plays a role in the retrograde trafficking pathway for recycling proteins, such as mannose-6-phosphate receptor (M6PR), between lysosomes and the Golgi apparatus in a retromer-dependent manner (PubMed:23395371). Regulates neuronal process morphology in the intact central nervous system (CNS) (PubMed:17114044). Plays a role in synaptic vesicle trafficking (PubMed:24687852). Plays an important role in recruiting SEC16A to endoplasmic reticulum exit sites (ERES) and in regulating ER to Golgi vesicle-mediated transport and ERES organization (PubMed:25201882). Positively regulates autophagy through a calcium-dependent activation of the CaMKK/AMPK signaling pathway (PubMed:22012985). The process involves activation of nicotinic acid adenine dinucleotide phosphate (NAADP) receptors, increase in lysosomal pH, and calcium release from lysosomes (PubMed:22012985). Phosphorylates PRDX3 (PubMed:<a href="http://www.uniprot.org/citations/21850687"

target="_blank">21850687). By phosphorylating APP on 'Thr-743', which promotes the production and the nuclear translocation of the APP intracellular domain (AICD), regulates dopaminergic neuron apoptosis (PubMed:28720718). Independent of its kinase activity, inhibits the proteosomal degradation of MAPT, thus promoting MAPT oligomerization and secretion (PubMed:26014385). In addition, has GTPase activity via its Roc domain which regulates LRRK2 kinase activity (PubMed:18230735, PubMed:26824392, PubMed:29125462, PubMed:28720718, PubMed:29212815).

Cellular Location

Cytoplasmic vesicle. Perikaryon. Golgi apparatus membrane; Peripheral membrane protein. Cell projection, axon. Cell projection, dendrite. Endoplasmic reticulum membrane; Peripheral membrane protein. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane. Endosome {ECO:0000250|UniProtKB:Q5S006}. Lysosome Mitochondrion outer membrane; Peripheral membrane protein Note=Colocalized with RAB29 along tubular structures emerging from Golgi apparatus (PubMed:23395371). Localizes to endoplasmic reticulum exit sites (ERES), also known as transitional endoplasmic reticulum (tER) (PubMed:25201882).

Tissue Location

Expressed in pyramidal neurons in all cortical laminae of the visual cortex, in neurons of the substantia nigra pars compacta and caudate putamen (at protein level). Expressed in neutrophils (at protein

level) (PubMed:29127255). Expressed in the brain. Expressed throughout the adult brain, but at a lower level than in heart and liver. Also expressed in placenta, lung, skeletal muscle, kidney and pancreas. In the brain, expressed in the cerebellum, cerebral cortex, medulla, spinal cord occipital pole, frontal lobe, temporal lobe and putamen. Expression is particularly high in brain dopaminoceptive areas.

PARK8 (LRRK2) Antibody (L955) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PARK8 (LRRK2) Antibody (L955) - Citations

- LRRK2 and parkin immunoreactivity in multiple system atrophy inclusions.
- Dynamic and redundant regulation of LRRK2 and LRRK1 expression.