

Rabbit anti-Human LRRK2 Polyclonal Antibody | anti-LRRK2 antibody

Phospho-LRRK2 (Ser910) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329352	Rabbit	Human	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

LRRK2; Polyclonal Antibody; Phospho-LRRK2 (Ser910) Antibody; augmented in rheumatoid arthritis 17; AURA17; Dardarin; Leucine rich repeat kinase 2; leucine rich repeat serine threonine protein kinase 2; Leucine-rich repeat serine/threonine-protein kinase 2; LRRK 2; LRRK2_HUMAN; PARK 8; PARK8; RIPK7; ROCO 2; ROCO2; anti-LRRK2 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-LRRK2 (Ser910) Antibody detects endogenous levels of LRRK2 only when phosphorylated at Ser910. Tissue Specificity: 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). 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 dopaminergic areas.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-LRRK2 antibody	ELISA (Peptide ELISA), ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human LRRK2 around the phosphorylation site of Ser910.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Autophosphorylated. Phosphorylation of Ser-910 and either Ser-935 or Ser-1444 facilitates interaction with YWHAG. Phosphorylation of Ser-910 and/or Ser-935 facilitates interaction with SFN.
Subunit Structure	Homodimer. Interacts with PRKN, PRDX3, and TPCN2. Interacts with VPS35 and RAB29. Interacts (via ROC domain) with SEC16A. Interacts with APP; interaction promotes phosphorylation of 'Thr-743' of APP. Interacts with MAPT. Interacts with RAB8A, RAB10, and RAB12. Interacts with YWHAG; this interaction is dependent on phosphorylation of Ser-910 and either Ser-935 or Ser-1444. Interacts with SFN; this interaction is dependent on phosphorylation of Ser-910 and/or Ser-935.
Similarity	The seven-bladed WD repeat region is critical for synaptic vesicle trafficking and mediates interaction with multiple vesicle-associated presynaptic proteins (PubMed:24687852). It also mediates homodimerization and regulates kinase activity (PubMed:30635421).The Roc domain mediates homodimerization and regulates kinase activity.Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family.

Subcellular 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. 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).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



Application Data

At 25 degree C. Samples were then incubated with primary Ab(At 37 degree C. An AlexaFluor594 conjugated goat anti-rabbit IgG(H+L) Ab(Red) and an AlexaFluor488 conjugated goat anti-mouse IgG(H+L) Ab(Green) were used as the secondary antibody.The nuclear counter stain is DAPI (blue).



IHC (Immunohistochemisry)

At 1/100 staining Human gastric cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohiostchemistry)

Staining Human colorectal cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of extracts from Hela cells(heat shock treatment), using Phospho-LRRK2 (Ser910) Antibody. The lane on the left was treated with blocking peptide.Observed bands: 30kDa

ADDITIONAL INFORMATION

Related Product Information for anti-LRRK2 antibody	Serine/threonine-protein kinase which phosphorylates a broad range of proteins involved in multiple processes such as neuronal plasticity, autophagy, and vesicle trafficking. Is a key regulator of RAB GTPases by regulating the GTP/GDP exchange and interaction partners of RABs through phosphorylation. Phosphorylates RAB3A, RAB3B, RAB3C, RAB3D, RAB5A, RAB5B, RAB5C, RAB8A, RAB8B, RAB10, RAB12, RAB35, and RAB43. Regulates the RAB3IP-catalyzed GDP/GTP exchange for RAB8A through the phosphorylation of 'Thr-72' on RAB8A. Inhibits the interaction between RAB8A and GDI1 and/or GDI2 by phosphorylating 'Thr-72' on RAB8A. Regulates primary ciliogenesis through phosphorylation of RAB8A and RAB10, which promotes SHH signaling in the brain. 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. Regulates neuronal process morphology in the intact central nervous system (CNS). Plays a role in synaptic vesicle trafficking. 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. Positively regulates autophagy through a calcium-dependent activation of the CaMKK/AMPK signaling pathway. The process involves activation of nicotinic acid adenine dinucleotide phosphate (NAADP) receptors, increase in lysosomal pH, and calcium release from lysosomes. Phosphorylates PRDX3. By phosphorylating APP on 'Thr-743', which promotes the production and the nuclear translocation of the APP intracellular domain (AICD), regulates dopaminergic neuron apoptosis. Independent of its kinase activity, inhibits the proteosomal degradation of MAPT, thus promoting MAPT oligomerization and secretion. In addition, has GTPase activity via its Roc domain which regulates LRRK2 kinase activity.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	171846278
NCBI GeneID	120892
NCBI Accession #	NP_940980.3

NCBI GenBank Nucleotide #	NM_198578.3
UniProt Accession #	Q5S007; Q6ZS50; Q8NCX9; A6NJU2
Molecular Weight	2527
NCBI Official Full Name	leucine-rich repeat serine/threonine-protein kinase 2
NCBI Official Synonym Full Names	leucine-rich repeat kinase 2
NCBI Official Symbol	LRRK2
NCBI Official Synonym Symbols	PARK8; RIPK7; ROCO2; AURA17; DARDARIN
NCBI Protein Information	leucine-rich repeat serine/threonine-protein kinase 2; augmented in rheumatoid arthritis 17
UniProt Protein Name	Leucine-rich repeat serine/threonine-protein kinase 2
UniProt Gene Name	LRRK2
UniProt Synonym Gene Names	PARK8
UniProt Entry Name	LRRK2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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