

**Product Name: LRRK2 (4E1) Rabbit Monoclonal Antibody****Catalog #: AMRe13444**

For research use only.

**Summary**

<b>Description</b>	Recombinant rabbit monoclonal antibody
<b>Host</b>	Rabbit
<b>Application</b>	WB,IP
<b>Reactivity</b>	Human,Mouse
<b>Conjugation</b>	Unconjugated
<b>Modification</b>	Unmodified
<b>Isotype</b>	IgG
<b>Clonality</b>	Monoclonal
<b>Form</b>	Liquid
<b>Concentration</b>	0.5mg/ml. The concentration of this product may be batch-dependent.
<b>Storage</b>	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
<b>Shipping</b>	Ice bags
<b>Buffer</b>	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Purification</b>	Affinity purification

**Application**

<b>Dilution Ratio</b>	WB 1:500-1:2000,IP 1:20-1:50
<b>Molecular Weight</b>	286kDa

**Antigen Information**

<b>Gene Name</b>	LRRK2
<b>Alternative Names</b>	AURA17; Dardarin antibody;; Leucine rich repeat kinase 2; LRRK 2 antibody; LRRK2; LRRK2_HUMAN; PARK 8; PARK8; RIPK7; ROCO 2; ROCO2;
<b>Gene ID</b>	120892.0
<b>SwissProt ID</b>	Q5S007
<b>Immunogen</b>	A synthetic peptide of human LRRK2

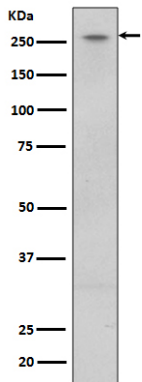
**Background**

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. 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. 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: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 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: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).

## Research Area

Autophagy, MAPK signaling pathway

## Image Data



Western blot analysis of LRRK2 expression in U87-MG cell lysate.