

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

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## Summary

<b>Production Name</b>	LRRK2 (4E1) Rabbit Monoclonal Antibody
<b>Description</b>	Rabbit Monoclonal Antibody
<b>Host</b>	Rabbit
<b>Application</b>	WB,ELISA
<b>Reactivity</b>	Human,Mouse,Rat

## Performance

<b>Conjugation</b>	Unconjugated
<b>Modification</b>	Unmodified
<b>Isotype</b>	IgG
<b>Clonality</b>	Monoclonal
<b>Form</b>	Liquid
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
<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

## Immunogen

<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.

## Application

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

## 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](http://www.uniprot.org/citations/20949042), PubMed: [22012985](http://www.uniprot.org/citations/22012985), PubMed: [26824392](http://www.uniprot.org/citations/26824392), PubMed: [29125462](http://www.uniprot.org/citations/29125462), PubMed: [28720718](http://www.uniprot.org/citations/28720718), PubMed: [29127255](http://www.uniprot.org/citations/29127255), PubMed: [30398148](http://www.uniprot.org/citations/30398148), PubMed: [29212815](http://www.uniprot.org/citations/29212815), PubMed: [30635421](http://www.uniprot.org/citations/30635421), PubMed: [21850687](http://www.uniprot.org/citations/21850687), PubMed: [23395371](http://www.uniprot.org/citations/23395371), PubMed: [17114044](http://www.uniprot.org/citations/17114044), PubMed: [24687852](http://www.uniprot.org/citations/24687852), PubMed: [26014385](http://www.uniprot.org/citations/26014385), PubMed: [25201882](http://www.uniprot.org/citations/25201882)). Is a key regulator of RAB GTPases by regulating the GTP/GDP exchange and interaction partners of RABs through phosphorylation (PubMed: [26824392](http://www.uniprot.org/citations/26824392), PubMed: [28720718](http://www.uniprot.org/citations/28720718), PubMed: [29127255](http://www.uniprot.org/citations/29127255), PubMed: [30398148](http://www.uniprot.org/citations/30398148), PubMed: [29212815](http://www.uniprot.org/citations/29212815), PubMed: [29125462](http://www.uniprot.org/citations/29125462), PubMed: [30635421](http://www.uniprot.org/citations/30635421)). Phosphorylates RAB3A, RAB3B, RAB3C, RAB3D, RAB5A, RAB5B, RAB5C, RAB8A, RAB8B, RAB10, RAB12, RAB35, and RAB43 (PubMed: [26824392](http://www.uniprot.org/citations/26824392), PubMed: [28720718](http://www.uniprot.org/citations/28720718), PubMed: [29127255](http://www.uniprot.org/citations/29127255), PubMed: [26824392](http://www.uniprot.org/citations/26824392), PubMed: [28720718](http://www.uniprot.org/citations/28720718), PubMed: [29127255](http://www.uniprot.org/citations/29127255)).

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<http://www.uniprot.org/citations/30398148> target="\_blank">30398148</a>, PubMed:<a href="http://www.uniprot.org/citations/29212815" target="\_blank">29212815</a>, PubMed:<a href="http://www.uniprot.org/citations/29125462" target="\_blank">29125462</a>, PubMed:<a href="http://www.uniprot.org/citations/30635421" target="\_blank">30635421</a>, PubMed:<a href="http://www.uniprot.org/citations/23395371" target="\_blank">23395371</a>). Regulates the RAB3IP-catalyzed GDP/GTP exchange for RAB8A through the phosphorylation of 'Thr-72' on RAB8A (PubMed:<a href="http://www.uniprot.org/citations/26824392" target="\_blank">26824392</a>). Inhibits the interaction between RAB8A and GDI1 and/or GDI2 by phosphorylating 'Thr- 72' on RAB8A (PubMed:<a href="http://www.uniprot.org/citations/26824392" target="\_blank">26824392</a>). Regulates primary ciliogenesis through phosphorylation of RAB8A and RAB10, which promotes SHH signaling in the brain (PubMed:<a href="http://www.uniprot.org/citations/29125462" target="\_blank">29125462</a>, PubMed:<a href="http://www.uniprot.org/citations/30398148" target="\_blank">30398148</a>). 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:<a href="http://www.uniprot.org/citations/23395371" target="\_blank">23395371</a>). Regulates neuronal process morphology in the intact central nervous system (CNS) (PubMed:<a href="http://www.uniprot.org/citations/17114044" target="\_blank">17114044</a>). Plays a role in synaptic vesicle trafficking (PubMed:<a href="http://www.uniprot.org/citations/24687852" target="\_blank">24687852</a>). 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:<a href="http://www.uniprot.org/citations/25201882" target="\_blank">25201882</a>). Positively regulates autophagy through a calcium-dependent activation of the CaMKK/AMPK signaling pathway (PubMed:<a href="http://www.uniprot.org/citations/22012985" target="\_blank">22012985</a>). The process involves activation of nicotinic acid adenine dinucleotide phosphate (NAADP) receptors, increase in lysosomal pH, and calcium release from lysosomes (PubMed:<a href="http://www.uniprot.org/citations/22012985" target="\_blank">22012985</a>). Phosphorylates PRDX3 (PubMed:<a href="http://www.uniprot.org/citations/21850687" target="\_blank">21850687</a>). 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:<a href="http://www.uniprot.org/citations/28720718" target="\_blank">28720718</a>). Independent of its kinase activity, inhibits the proteosomal degradation of MAPT, thus promoting MAPT oligomerization and secretion (PubMed:<a href="http://www.uniprot.org/citations/26014385" target="\_blank">26014385</a>). In addition, has GTPase activity via its Roc domain which regulates LRRK2 kinase activity (PubMed:<a href="http://www.uniprot.org/citations/18230735" target="\_blank">18230735</a>, PubMed:<a href="http://www.uniprot.org/citations/26824392" target="\_blank">26824392</a>, PubMed:<a href="http://www.uniprot.org/citations/29125462" target="\_blank">29125462</a>, PubMed:<a href="http://www.uniprot.org/citations/28720718" target="\_blank">28720718</a>, PubMed:<a href="http://www.uniprot.org/citations/29212815" target="\_blank">29212815</a>).

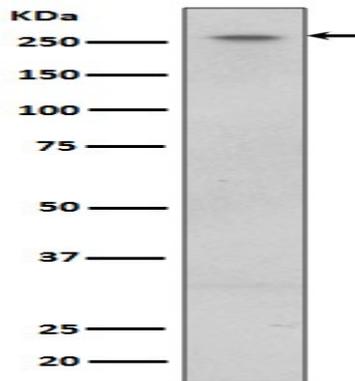
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## Research Area

## Image Data



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

## Note

For research use only.