

Product datasheet

Anti-LRRK2 antibody [UDD3 30(12)] - BSA and Azide free ab170993

KO VALIDATED

Recombinant

RabMAb

[1 References](#) [4 Images](#)

Overview

Product name	Anti-LRRK2 antibody [UDD3 30(12)] - BSA and Azide free
Description	Rabbit monoclonal [UDD3 30(12)] to LRRK2 - BSA and Azide free
Host species	Rabbit
Specificity	This antibody does not give a positive signal in Human fetal brain. Please contact our Scientific Support team if you have any questions.
Tested applications	Suitable for: WB, IHC-P, ICC/IF
Species reactivity	Reacts with: Mouse, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
General notes	<p>ab170993 is the carrier-free version of ab133518.</p> <p>Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency.</p> <p>This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.</p> <p>Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.</p> <p>This product is compatible with the Maxpar[®] Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar[®] is a trademark of Fluidigm Canada Inc.</p> <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

This antibody was developed with support from The Michael J. Fox Foundation.



Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	UDD3 30(12)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab170993 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 286 kDa.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
ICC/IF		Use at an assay dependent concentration.

Target

Function	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. Regulates neuronal process morphology in the intact central nervous system (CNS). Plays a role in synaptic vesicle trafficking. Phosphorylates PRDX3. Has GTPase activity. May play a role in the phosphorylation of proteins central to Parkinson disease.
Tissue specificity	Expressed in the brain. 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 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.

Involvement in disease

Parkinson disease 8

Sequence similarities

Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. Contains 12 LRR (leucine-rich) repeats. Contains 1 protein kinase domain. Contains 1 Roc domain. Contains 7 WD repeats.

Domain

The seven-bladed WD repeat region is critical for synaptic vesicle trafficking and mediates interaction with multiple vesicle-associated presynaptic proteins. The Roc domain mediates homodimerization and regulates kinase activity.

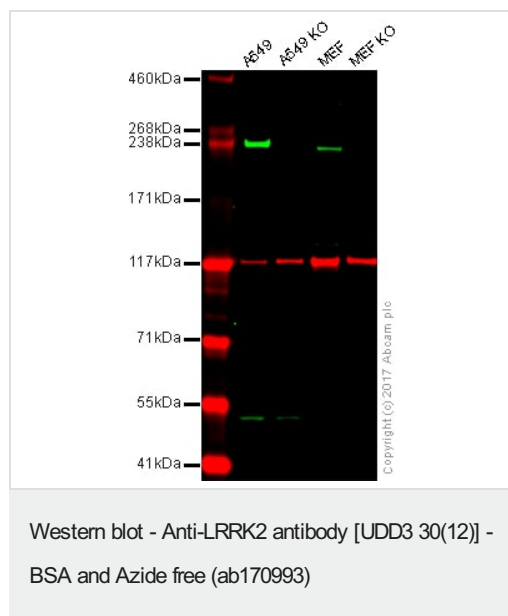
Post-translational modifications

Autophosphorylated.

Cellular localization

Membrane. Cytoplasm. Perikaryon. Mitochondrion. Golgi apparatus. Cell projection, axon. Cell projection, dendrite. Endoplasmic reticulum. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane. Endosome. Lysosome. Mitochondrion outer membrane. Mitochondrion inner membrane. Mitochondrion matrix. Predominantly associated with intracytoplasmic vesicular and membranous structures (By similarity). Localized in the cytoplasm and associated with cellular membrane structures. Predominantly associated with the mitochondrial outer membrane of the mitochondria. Colocalized with RAB29 along tubular structures emerging from Golgi apparatus. Localizes in intracytoplasmic punctate structures of neuronal perikarya and dendritic and axonal processes.

Images



This WB data was generated using the same anti-LRRK2 antibody clone, UDD3 30(12), in a different buffer formulation (cat# [ab133518](#)).

Lane 1: Wild-type A549 cell lysate (20 µg)

Lane 2: LRRK2 knockout A549 cell lysate (20 µg)

Lane 3: Wild-type MEF cell lysate (20 µg)

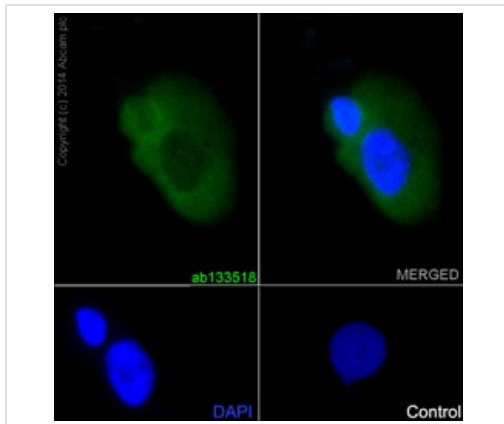
Lane 4: LRRK2 knockout MEF cell lysate (20 µg)

Lanes 1 - 4: Merged signal (red and green). Green - [ab133518](#) observed at 238 kDa. Red - loading control, [ab130007](#), observed at 124 kDa.

[ab133518](#) was shown to specifically react with wild type A549 and MEF cell lines. No band was observed when knock out samples were used. Wild-type and LRRK2 knockout samples were subjected to SDS-PAGE. Ab133518 and [ab130007](#) (loading control to Vinculin) were diluted at 1/500 and 1/10000 dilution respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed [ab216773](#) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed [ab216776](#) secondary antibodies at 1/10000 dilution

for 1 hour at room temperature before imaging.

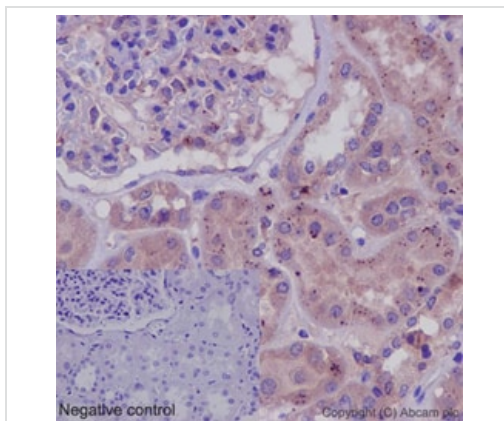
Wild-type and LRRK2 knockout MEF and A549 cells were provided as a generous gift from Professor Dario Alessi, MRC Protein Phosphorylation and Ubiquitination Unit (University of Dundee).



Immunocytochemistry/ Immunofluorescence - Anti-LRRK2 antibody [UDD3 30(12)] - BSA and Azide free (ab170993)

Immunofluorescent staining of SH-SY5Y cells fixed and permeabilized with 4% PFA and 0.1% Triton X 100 using purified **ab133518** at a dilution of 1/200. An Alexa Fluor® 488 goat anti-rabbit was used as the secondary (**ab150077**, 1/400) and the sample was stained with DAPI. The negative control is shown in bottom right hand panel - for the negative control, purified **ab133518** was used at a dilution of 1/200 followed by an Alexa Fluor® 594 goat anti-mouse antibody (**ab150120**) at a dilution of 1/500.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133518**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LRRK2 antibody [UDD3 30(12)] - BSA and Azide free (ab170993)

This IHC data was generated using the same anti-LRRK2 antibody clone, UDD3 30(12), in a different buffer formulation (cat# **ab133518**).

Immunohistochemical staining of paraffin-embedded human kidney with purified **ab133518** at a dilution of 1/100. A prediluted HRP polymer for rabbit IgG was used as the secondary and the sample was stained with hematoxylin. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

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Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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