

Product datasheet

Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] - BSA and Azide free ab248886

Recombinant **RabMAb**

3 Images

Overview

Product name	Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] - BSA and Azide free
Description	Rabbit monoclonal [MJFR4-25-5] to LRRK2 (phospho T1410) - BSA and Azide free
Host species	Rabbit
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide within Human LRRK2 (phospho T1410). The exact sequence is proprietary. Database link: Q5S007
General notes	<p>ab248886 is the carrier-free version of ab140107. This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes.</p> <p>Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency.</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>Ab248886 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm.</p> <p><i>Maxpar® is a trademark of Fluidigm Canada Inc.</i></p> <p>This antibody was developed with support of The Michael J. Fox Foundation (MJFF) with the assistance of a consortium of investigators to help accelerate LRRK2 research.</p> <p>LRRK2 (Leucine-rich repeat kinase 2, dardarin) is a multi-domain protein belonging to the ROCO family of proteins that contains a kinase and GTPase domain among its many protein interaction domains. LRRK2 is mutated in a significant number of Parkinson's disease (PD) patients. Mutations in this gene account for 4% of PD, and are observed in 1% of sporadic PD patients. The most common mutation replaces glycine 2019 with a serine that results in increased LRRK2 kinase activity. This indicates that inhibitors of LRRK2 kinase activity might be of therapeutic benefit for the treatment of Parkinson's disease and has stimulated much activity in this field of research. Based upon mass spectrometry findings, a number of other residues within LRRK2 have also been found to be phosphorylated as well.</p> <p>Currently, the physiological relevance of these phospho-sites is not clear. Thus with the generation of this phospho-specific antibody, it is MJFF's hope that investigators may have at hand a critical</p>

tool to assist in their research endeavors that might thereby lend further clarity to the field of LRRK2 and its role in PD pathogenesis.

Acknowledgements: The Michael J. Fox Foundation would like to acknowledge the assistance of the following laboratories and individuals, whose input, guidance and assistance in testing all phosphospecific LRRK2 antibodies was critical:

- The Laboratory of Dr. Dario Alessi (University of Dundee) - Paul Davies, PhD
- The Laboratory of Dr. Mark Cookson (National Institute on Aging) - Alexandra Beilina, PhD
- The Laboratory of Dr. Johannes Gloeckner (Helmholtz Zentrum Munchen)
- The Laboratory of Dr. Takeshi Iwatsubo (University of Tokyo) - Genta Ito, PhD
- The Laboratory of Dr. Jeremy Nichols (The Parkinson's Institute)
- The Laboratory of Dr. Andrew West (University of Alabama)



This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free production

For more information [see here](#).

Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMAb[®] patents](#).

Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise[™] guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Affinity purified
Clonality	Monoclonal
Clone number	MJFR4-25-5
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab248886** 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.

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 dopaminoceptive 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.

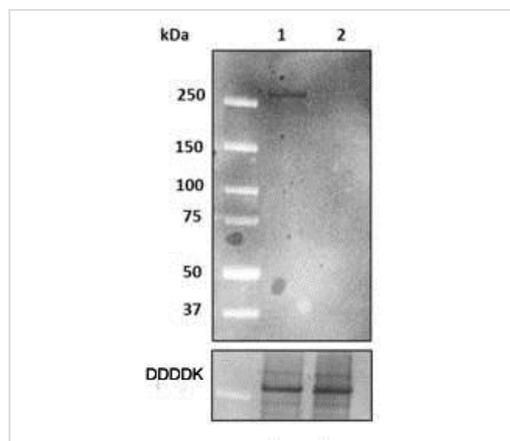
Post-translational modifications

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



All lanes : Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] ([ab140107](#)) at 1/1000 dilution

Lane 1 : LRRK2 wild-type transfected 293T in vitro auto-phosphorylation

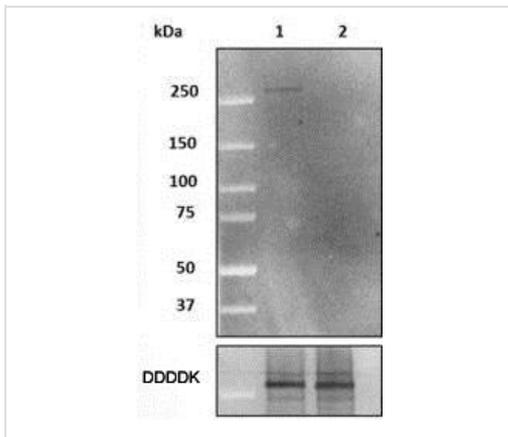
Lane 2 : LRRK2 T1410A in vitro auto-phosphorylation

Predicted band size: 286 kDa

Western blot - Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] - BSA and Azide free ([ab248886](#))

This image is courtesy of Drs. Cookson and Beilina (National Institute on Aging)

This data was developed using [ab140107](#), the same antibody clone in a different buffer formulation.



Western blot - Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] - BSA and Azide free (ab248886)

This image is courtesy of Drs. Cookson and Beilina (National Institute on Aging)

All lanes : Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] (ab140107) at 1/5000 dilution

Lane 1 : LRRK2 wild type transfected 293T in vitro auto-phosphorylation

Lane 2 : LRRK2 T1410A in vitro auto-phosphorylation

Predicted band size: 286 kDa

This data was developed using ab140107, the same antibody clone in a different buffer formulation.

Why choose a recombinant antibody?

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Anti-LRRK2 (phospho T1410) antibody [MJFR4-25-5] - BSA and Azide free (ab248886)

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

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