

## Product datasheet

# Recombinant human LRRK2 (mutated G2019S) protein (Active) ab268733

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### Description

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| <b>Product name</b>                    | Recombinant human LRRK2 (mutated G2019S) protein (Active)   |
| <b>Biological activity</b>             | The specific activity of ab268733 was 4.2 nmol/min/mg in a kinase assay using LRRKtide (RLGDKYKTLRQIRQ) as substrate. |
| <b>Purity</b>                          | > 70 % SDS-PAGE.<br>Affinity purified.  |
| <b>Expression system</b>               | Baculovirus infected Sf9 cells  |
| <b>Accession</b>                       | <b><u>Q5S007</u></b>  |
| <b>Protein length</b>                  | Protein fragment  |
| <b>Animal free</b>                     | No  |
| <b>Nature</b>                          | Recombinant   |
| <b>Species</b>                         | Human   |
| <b>Molecular weight information</b>    | 210 kDa by SDS-PAGE   |
| <b>Amino acids</b>                     | 968 to 2527   |
| <b>Modifications</b>                   | mutated G2019S  |
| <b>Tags</b>                            | GST tag N-Terminus  |
| <b>Additional sequence information</b> | NM_198578   |

### Specifications

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Our **Abpromise guarantee** covers the use of **ab268733** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

|                     |                                |
|---------------------|--------------------------------|
| <b>Applications</b> | Functional Studies<br>SDS-PAGE |
| <b>Form</b>         | Liquid                         |

### Preparation and Storage

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**Stability and Storage** Shipped on Dry Ice. Upon delivery aliquot. Store at -80°C. Avoid freeze / thaw cycle.

pH: 7.50

Constituents: 0.79% Tris HCl, 0.87% Sodium chloride, 0.31% Glutathione, 0.003% EDTA, 0.004% DTT, 0.002% PMSF, 25% Glycerol (glycerin, glycerine)

This product is an active protein and may elicit a biological response in vivo, handle with caution.

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## General Info

### 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

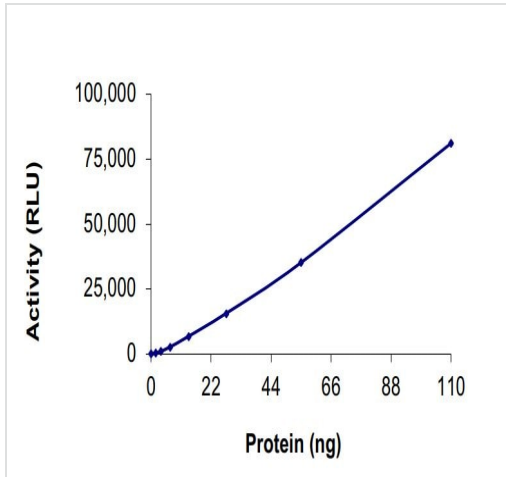
Autophosphorylated.

### 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.

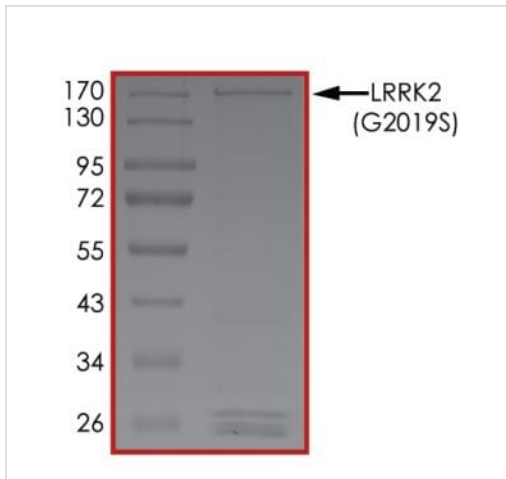
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## Images



The specific activity of ab268733 was 4.2 nmol/min/mg in a kinase assay using LRRKtide (RLGDKYKTLRQIRQ) as substrate.

Functional Studies - Recombinant human LRRK2 (mutated G2019S) protein (Active) (ab268733)



SDS-PAGE analysis of ab268733.

SDS-PAGE - Recombinant human LRRK2 (mutated G2019S) protein (Active) (ab268733)

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