

## Product Information

### Anti-LRRK2 (C-terminal region)

produced in rabbit, affinity isolated antibody

Product Number **L9918**

### Product Description

Anti-LRRK2 (C-terminal region) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human LRRK2 (GeneID 120892) conjugated to KLH. The corresponding sequence is highly conserved (single amino acid substitution) in mouse and rat LRRK2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-LRRK2 (C-terminal region) specifically recognizes LRRK2. The antibody may be used for immunoblotting (~240 kDa). Staining of the LRRK2 band by immunoblotting is specifically inhibited by the LRRK2 immunizing peptide.

Parkinson's disease (PD) is the most common motor neurodegenerative disease, characterized by the progressive loss of dopaminergic neurons from the substantia nigra and the presence of intracellular Lewy bodies. Mutations in several genes have been genetically linked to PD in recent years. Mutations in the gene encoding LRRK2 (Leucine-Rich Repeat protein Kinase 2, also known as PARK8 and dardarin) have been identified to cause late-onset autosomal-dominant PD.<sup>1-3</sup>

LRRK2 mRNA is expressed throughout the brain predominantly within regions of the basal ganglia that are associated with PD.<sup>4</sup> The LRRK2 homologue LRRK1 shares domain structure similarity with LRRK2, but is not known to carry mutations causing PD.<sup>4,5</sup> LRRK2 consists of multiple domains, including a leucine-rich repeat (LRR) domain, a Roc GTPase domain followed by a C-terminal of ROC (COR) domain, a Ser/Thr kinase domain and a C-terminal WD40 domain. The N-terminal region (~900 amino acids) contains ankyrin (ANK) repeats. The presence of multiple protein interaction domains suggests that in addition to its kinase and GTPase activities, LRRK2 may serve as a scaffold protein for the assembly of multiprotein signaling complex.

At least 20 LRRK2 mutations have been linked to PD. The most prevalent LRRK2 mutations linked to autosomal-dominant PD are G2019S and R1441C, both associated with increased kinase activity. In addition, the R1441C mutation has been shown to disrupt GTPase activity.<sup>7</sup>

### Reagent

Supplied as a solution in 0.01 M PBS, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

### Product Profile

**Immunoblotting:** a working concentration of 2–4 µg/mL is recommended using HEK-293T cells expressing human LRRK2, and using rat and mouse brain extracts (S2 fraction).

**Note:** In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

## References

1. Paisan-Ruiz, C., et al., *Neuron*, **44**, 595-600 (2004).
2. West, A.B., et al., *Proc. Natl. Acad. Sci. USA.*, **102**, 16842-16847 (2005).
3. Cookson, M.R., et al., *J. Neurosci.*, **27**, 11865-11868 (2007).
4. Simon-Sanchez, J., et al., *Eur. J. Neurochem.*, **23**, 659-666 (2007).
5. Greggio, E., et al., *J. Neurochem.*, **102**, 903-102 (2007).
6. Lewis, P.A., et al., *Biochem. Biophys. Res. Commun.*, **357**, 668-671 (2007).

VS,ER,BKR,PHC,MAM 08/19-1