



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human LRRK2 Protein
Catalog Number: hRP-0536
Manufacturer: LD Biopharma, Inc.

Introduction

Human leucine-rich repeat kinase 2 (LRRK2) gene is a member of the leucine-rich repeat kinase family and encodes a protein with an ankyrin repeat region, a leucine-rich repeat (LRR) domain, a kinase domain, a DFG-like motif, a RAS domain, a GTPase domain, a MLK-like domain, and a WD40 domain. The protein is present largely in the cytoplasm but also associates with the mitochondrial outer membrane. Mutations in this gene have been associated with Parkinson disease-8.

Human LRRK2 protein kinase domain cDNA (1867–2152 aa, derived from BC117180.1) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. It is expressed in E.coli as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. This refolded LRRK2 kinase domain is enzymatic active for its kinase activity, will be a good reagent for inhibitor screening in vitro.

Gene Symbol: LRRK2 (AURA17; DARDARIN; PARK8; ROCO2; PIRK7)
Accession Number: NP_940980.3
Species: Human
Size: 20 µg / Vial
Composition: 0.5 mg/ml, sterile-filtered, in PBS.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Xiong, Y., et al., *ArfGAP1 is a GTPase activating protein for LRRK2: reciprocal regulation of ArfGAP1 by LRRK2*. J. Neurosci. 32 (11), 3877-3886 (2012)

Inzelberg, R., et al., *The LRRK2 G2019S mutation is associated with Parkinson disease*



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and concomitant non-skin cancers. Neurology 78 (11), 781-786 (2012)

Oliver Cooper, et al., *Pharmacological Rescue of Mitochondrial Deficits in iPSC-Derived Neural Cells from Patients with Familial Parkinson's Disease.* Sci Transl Med. 4 July: Vol. 4, Issue 141, p. 141ra90. (2012)

Applications

1. May be used for enzyme kinetics, screening inhibitors, and selectivity profiling.
2. As soluble / native protein, may be good for kinase domain 3D study.
3. As antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.
2. Functional Test: Active for LRRK2 kinase activity.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFNIMLNNDLEFEQAPEFLLGDGSFGSVY
RAAYEGEEVAVKIFNKHTSLRLLRQELVVLCHLHHPSLISLLAAGIRPRMLVMELASKGS
LDRLQLQDKASLTRLQHRIALHVADGLRYLHSAMIIYRDLKPHNVLLFTLYPNAIIAK
IADYGIAQYCCRMGIKTSEGTGPFRAPEVARGNVIYNQQADVYSFGLLLYDILTGGGRIV
EGLKFPNEFDELEIQGKLPDPVKEYGCAPWPMVEKLIKQCLKENPQERPTSAQVFDILNS
AELVCLTRRILLPKN