

Product datasheet

Recombinant Human DRP1 protein ab153041

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Description

Product name	Recombinant Human DRP1 protein
Expression system	Wheat germ
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human

Sequence

MEALIPVINKLQDVFNVTGADIQLPQIVVGTQSSGKSSVL
ESLVGRDL
LPRGTGIVTRRPLILQLVHVSQEDKRKTTGEENGVEAEW
GKFLHTKNKL
YTDFDEIRQEIENETERISGNKGVSPPIHLKIFSPNVNLT
LVDLPGM
TKVPVGDQPKDIELQIRELILRFISNPNSILAVTAANTDMAT
SEALKIS
REVDPDGRRTLAVITKLDLMDAGTDAMDVLMGRVIPVKLG
IIGVVNRSQL
DINNKKSVTDSIRDEYAFLLQKKYPSLANRNGTKYLARTLNR
LLMHHRDC
LPELKTRINVLAAQYQSLLSYGEVDDKSATLLQLITKFAT
EYCNTIEG
TAKYIETSELGGARICYIFHETFGRTLESVDPLGGLNTIDILT
AIRNAT
GPRPALFVPEVSFELLVKRQIKRLEEPSLRCVELVHEEMQ
RIQHCSNYS
TQELLRFPKLHDAMEVVTCLLRKRLPVTNEMVHNLVAIEL
AYINTKHPD
FADACGLMNNNIEEQRRNRLARELPSAVSRDKLIQDSRRE
TKNVASGGGG
VGDGVQEPTGNWRGMLKTSKAEELLAEEKSKPIIPMPA
SPQKGHAVNLL
DVPVPVARKLSAREQRDCEVIERLIKSYFLMRKNIQDSVP
KAVMHFLVN
HVKDTLQSELVGQLYKSSLLDDLLTESEDMAQRKEAAD
MLKALQGASQIAEIRETHLW

Amino acids	1 to 710
Tags	GST tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab153041** in the following tested applications.

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

Applications	ELISA Western blot
Form	Liquid
Additional notes	

Preparation and Storage

Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 8.00 Constituents: 0.31% Glutathione, 0.79% Tris HCl
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General Info

Function	Functions in mitochondrial and peroxisomal division. Mediates membrane fission through oligomerization into ring-like structures which wrap around the scission site to constrict and sever the mitochondrial membrane through a GTP hydrolysis-dependent mechanism. Required for normal brain development. Facilitates developmentally-regulated apoptosis during neural tube development. Required for a normal rate of cytochrome c release and caspase activation during apoptosis. Also required for mitochondrial fission during mitosis. May be involved in vesicle transport. Isoform 1 and isoform 4 inhibit peroxisomal division when overexpressed.
Tissue specificity	Ubiquitously expressed with highest levels found in skeletal muscles, heart, kidney and brain. Isoform 1 is brain-specific. Isoform 2 and isoform 3 are predominantly expressed in testis and skeletal muscles respectively. Isoform 4 is weakly expressed in brain, heart and kidney. Isoform 5 is dominantly expressed in liver, heart and kidney. Isoform 6 is expressed in neurons.
Involvement in disease	Note=May be associated with Alzheimer disease through beta-amyloid-induced increased S-nitrosylation of DNM1L, which triggers, directly or indirectly, excessive mitochondrial fission, synaptic loss and neuronal damage.
Sequence similarities	Belongs to the dynamin family. Contains 1 GED domain.
Domain	The GED domain folds back to interact, in cis, with the GTP-binding domain and middle domain, and interacts, in trans, with the GED domains of other DNM1L molecules, and is thus critical for activating GTPase activity and for DNM1L dimerization.
Post-translational modifications	Phosphorylation/dephosphorylation events on two sites near the GED domain regulate mitochondrial fission. Phosphorylation on Ser-637 inhibits mitochondrial fission probably through preventing intramolecular interaction. Dephosphorylated on this site by PPP3CA which promotes mitochondrial fission. Phosphorylation on Ser-616 also promotes mitochondrial fission.

Sumoylated on various lysine residues within the B domain. Desumoylated by SENP5 during G2/M transition of mitosis. Appears to be linked to its catalytic activity.

S-nitrosylation increases DNMT1L dimerization, mitochondrial fission and causes neuronal damage.

Ubiquitination by MARCH5 affects mitochondrial morphology.

Cellular localization

Cytoplasm > cytosol. Golgi apparatus. Endomembrane system. Mainly cytosolic. Translocated to the mitochondrial membrane through interaction with FIS1. Colocalized with MARCH5 at mitochondrial membrane. Localizes to mitochondria at sites of division. Associated with peroxisomal membranes, partly recruited there by PEX11B. May also be associated with endoplasmic reticulum tubules and cytoplasmic vesicles and found to be perinuclear. In some cell types, localizes to the Golgi complex.

Images



ab153041 on a 12.5% SDS-PAGE stained with Coomassie Blue.

SDS-PAGE - Recombinant Human DRP1 protein
(ab153041)

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