

Product datasheet

Recombinant Human DRP1 protein ab153041

1 Image

Description

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

<b>Sequence</b>	<p>MEALIPVINKLQDVFNVTGADIQLPQMVVGTQSSGKSS  VLESLVGRDL  LPRGTGIVTRRPLILQLVHVSQEDKRKTTGEENGVEAE  EWGKFLHTKNKL  YDFDEIRQEIENETERISGNKGVSPPIHLKIFSPNVV  NLTLVDLPGM  TKVPVGDQPKDIELQIRELILRFISNPNSIILAVTAANTDM  ATSEALKIS  REVDPDGRRTLAVITKLDLMDAGTDAMDVLMGRVIPV  KLGIGVVNRSQL  DINNKKSVTDSIRDEYAFLLQKKYPSLANRNGTKYLARTL  NRLLMHHIRDC  LPELKTRINVLAAQYQSLLNSYGEPVDDKSATLLQLITK  FATEYCNTIEG  TAKYIETSELCCGARICYIFHETFGRTLESVDPLGGLNTI  DILTAINAT  GPRPALFVPEVSFELLVKRQIKRLEEPSLRCVELVHEE  MQRIIQHCSNYS  TQELLRFPKLHDAIVEVVTCLLRKRLPVTNEMVHNLVAI  ELAYINTKHPD  FADACGLMNNNIEQRRNRLARELPSAVSRDKLIQDS  RRETKNVASGGGG  VGDGVQEPTTGNWRGMLKTSKAEELLAEEKSKIPIM  PASPQKGHAVNLL  DVPVPVARKLSAREQRDCEVIERLIKSIFLVRKNIQDS  VPKAVMHFLVN  HVKDTLQSELVGQLYKSSLLDDLLTESEDMAQRRKEA  ADMLKALQGASQIAEIRETHLW</p>
-----------------	---

<b>Amino acids</b>	1 to 710
<b>Tags</b>	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.

<b>Applications</b>	ELISA Western blot
<b>Form</b>	Liquid
<b>Additional notes</b>	Protein concentration is above or equal to 0.05 mg/ml.

## Preparation and Storage

---

<b>Stability and Storage</b>	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
------------------------------	--

## General Info

---

<b>Function</b>	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.
<b>Tissue specificity</b>	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.
<b>Involvement in disease</b>	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.
<b>Sequence similarities</b>	Belongs to the dynamin family. Contains 1 GED domain.
<b>Domain</b>	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.
<b>Post-translational modifications</b>	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.

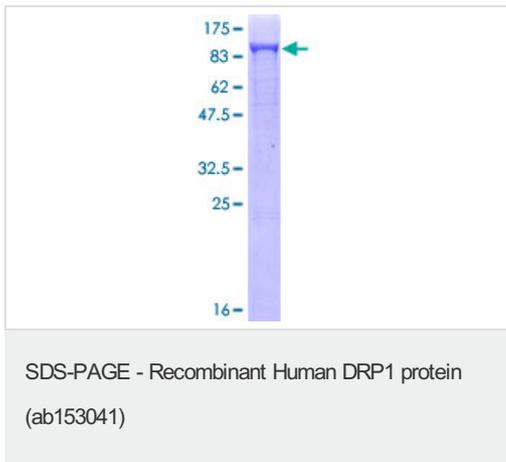
S-nitrosylation increases DNM1L dimerization, mitochondrial fission and causes neuronal damage.

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.

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

### Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors