

Rabbit DRP1 Polyclonal Antibody | anti-DRP1 antibody

DRP1 Antibody

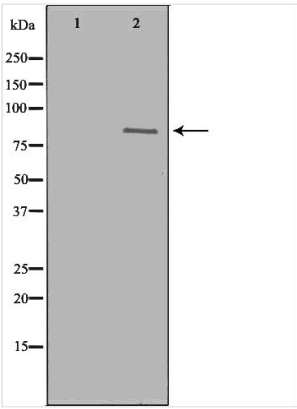
CATALOG # AAA326786	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS ELISA, Immunohistochemistry, Western Blot
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PRODUCT SYNONYMS

DRP1; Polyclonal Antibody; DRP1 Antibody; DLP1; dnm1l; DNM1L_HUMAN; Dnm1p/Vps1p-like protein; dnm1l; DVLP; Dymple; Dynamin 1 like; Dynamin family member proline-rich carboxyl-terminal domain less; Dynamin like protein; Dynamin related protein 1; Dynamin-1-like protein; Dynamin-like protein 4; Dynamin-like protein; Dynamin-like protein IV; Dynamin-related protein 1; DYNIV 11; EMPF; EMPF1; FLJ41912; HdynIV; VPS1; anti-DRP1 antibody

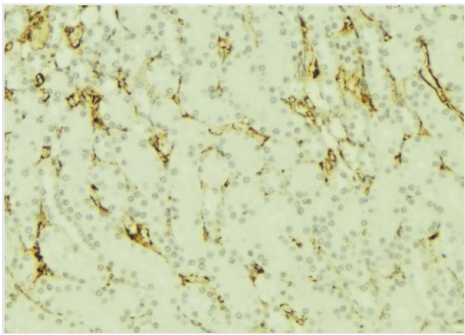
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	DRP1 antibody detects endogenous levels of total DRP1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	725
Applicable Applications for anti-DRP1 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human DRP1
Subcellular Location	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.
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.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)

Western blot analysis of K562 whole cell lysates, using DRP1 Antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA326786 at 1/100 staining Mouse kidney tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-DRP1 antibody	Description: Dynamin-related protein 1 (DRP1) is a member of the dynamin superfamily of GTPases. Members of this family have diverse cellular functions including vesicle scission, organelle fission, viral resistance, and intracellular trafficking (reviewed in 1). DRP1 affects mitochondrial morphology and is important in mitochondrial and peroxisomal fission in mammalian cells (2-5). The yeast ortholog of DRP1 clusters into a spiral-shaped structure on the mitochondrial membrane at the site of fission (reviewed in 6), and this structure is likely conserved in mammalian cells (3). The division of the mitochondria, which is required for apoptosis, as well as normal cell growth and development is controlled, in part, by the phosphorylation of DRP1 at Ser616 by Cdk1/cyclin B and at Ser637 by protein kinase A (PKA) (reviewed in 6). When phosphorylated at Ser616, DRP1 stimulates mitochondrial fission during mitosis. Conversely, fission is inhibited when DRP1 is phosphorylated at Ser637 (reviewed in 6). Dephosphorylation at Ser637 by calcineurin reverses this inhibition (7). In addition to phosphorylation, sumoylation of DRP1 is also an enhancer of mitochondrial fission (8). Balancing fission and fusion events is essential for proper mitochondrial function. Research studies have demonstrated mitochondrial defects in a variety of neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, and Huntington's disease (reviewed in 6). Function: Functions in mitochondrial and peroxisomal division. Mediates membrane fission through oligomerization into membrane-associated tubular structures that wrap around the scission site to constrict and sever the mitochondrial membrane through a GTP hydrolysis-dependent mechanism. Through its function in mitochondrial division, ensures the survival of at least some types of postmitotic neurons, including Purkinje cells, by suppressing oxidative damage. Required for normal brain development, including that of cerebellum. Facilitates developmentally regulated apoptosis during neural tube formation. Required for a normal rate of cytochrome c release and caspase activation during apoptosis; this requirement may depend upon the cell type and the physiological apoptotic cues. Plays an important role in mitochondrial fission during mitosis (PubMed:26992161). Required for formation of endocytic vesicles. Proposed to regulate synaptic vesicle membrane dynamics through association with BCL2L1 isoform Bcl-X(L) which stimulates its GTPase activity in synaptic vesicles; the function may require its recruitment by MFF to clathrin-containing vesicles. Required for programmed necrosis execution. Subunit Structure: Homotetramer; dimerizes through the N-terminal GTP-middle region of one molecule binding to the GED domain of another DNM1L molecule. Oligomerizes in a GTP-dependent manner to form membrane-associated tubules with a spiral pattern. Can also oligomerize to form multimeric ring-like structures. Interacts with GSK3B and MARCH5. Interacts (via the GTPase and B domains) with UBE2I; the interaction promotes sumoylation of DNM1L, mainly in its B domain. Interacts with PPP3CA; the interaction dephosphorylates DNM1L and regulates its transition to mitochondria. Interacts with BCL2L1 isoform BCL-X(L) and CLTA; DNM1L and BCL2L1 isoform BCL-X(L) may form a complex in synaptic vesicles that also contains clathrin and MFF. Interacts with FIS1. Interacts with MIEF2 and MIEF1; this regulates GTP hydrolysis and DNM1L oligomerization. Interacts with PGAM5; this interaction leads to dephosphorylation at Ser-656 and activation of GTPase activity and eventually to mitochondria fragmentation. Post-translational Modifications: Phosphorylation/dephosphorylation events on two sites near the GED domain regulate mitochondrial fission. Phosphorylation on Ser-637 inhibits the GTPase activity, leading to a defect in mitochondrial fission promoting mitochondrial elongation. Dephosphorylated on this site by PPP3CA which promotes mitochondrial fission. Phosphorylation on Ser-616 activates the GTPase activity and promotes mitochondrial fission. Sumoylated on various lysine residues within the B domain, probably by MUL1. Sumoylation positively regulates mitochondrial fission. 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. O-GlcNAcylation augments the level of the GTP-bound active form of DRP1 and induces translocation from the cytoplasm to mitochondria in cardiomyocytes. It also decreases phosphorylation at Ser-637 (By similarity). Similarity: 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. Belongs to the TRAFAC class dynamin-like GTPase superfamily. Dynamin/Fzo/YdjA family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	510937022
NCBI GeneID	10059
NCBI Accession #	NP_001265392.1
NCBI GenBank Nucleotide #	NM_001278463.1
UniProt Accession #	O00429; O14541; O60709; Q59GN9; Q7L6B3; Q8TBT7; Q9BWM1; Q9Y5J2; A8K4X9; B4DGC9; B4DSU8; J3KPI2

Molecular Weight	Observed: 79 kDa Predicted: 82 kDa
NCBI Official Full Name	dynamin-1-like protein isoform 4
NCBI Official Synonym Full Names	dynamin 1 like
NCBI Official Symbol	DNM1L
NCBI Official Synonym Symbols	DLP1; DRP1; DVLP; EMPF; OPA5; EMPF1; DYMPLE; HDYNIV
NCBI Protein Information	dynamin-1-like protein
UniProt Protein Name	Dynamin-1-like protein
UniProt Gene Name	DNM1L
UniProt Synonym Gene Names	DLP1; DRP1; DVLP; Dymple; HdynIV

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/drp1-antibody-immunohistochemistry-western-blot-elisa/326786>