

ARG66275 anti-DNM1L / DRP1 phospho (Ser637) antibody

Package: 100 µl
Store at: -20°C

Summary

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| Product Description | Rabbit Polyclonal antibody recognizes DNM1L / DRP1 phospho (Ser637) |
| Tested Reactivity | Hu |
| Tested Application | WB |
| Specificity | The antibody detects endogenous levels of DRP1 only when phosphorylated at serine 637. |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | IgG |
| Target Name | DNM1L / DRP1 |
| Species | Human |
| Immunogen | KLH-conjugated phospho-specific peptide around Ser637 (KLS(p)AR) of Human DRP1. |
| Conjugation | Un-conjugated |
| Alternate Names | EMPF; Dynamin family member proline-rich carboxyl-terminal domain less; Dynamin-1-like protein; DLP1; HDYNIV; Dynamin-like protein 4; DRP1; Dynamin-related protein 1; Dynamin-like protein; Dnm1p/Vps1p-like protein; EC 3.6.5.5; DVLP; HdynIV; Dymple; DYMPLE; Dynamin-like protein IV; VPS1 |

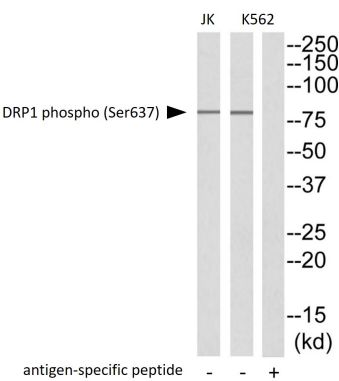
Application Instructions

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| Application table | Application | Dilution |
| | WB | 1:500 - 1:1000 |
| Application Note | * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist. | |

Properties

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| Form | Liquid |
| Purification | Affinity purification with phospho-specific peptide and the non-phospho specific antibodies were removed by chromatography using non-phosphopeptide. |
| Buffer | PBS (pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol. |
| Preservative | 0.02% Sodium azide |
| Stabilizer | 50% Glycerol |
| Concentration | 1 mg/ml |
| Storage instruction | For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use. |
| Note | For laboratory research only, not for drug, diagnostic or other use. |

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| Gene Symbol | DNM1L |
| Gene Full Name | dynamin 1-like |
| Background | This gene encodes a member of the dynamin superfamily of GTPases. The encoded protein mediates mitochondrial and peroxisomal division, and is involved in developmentally regulated apoptosis and programmed necrosis. Dysfunction of this gene is implicated in several neurological disorders, including Alzheimer's disease. Mutations in this gene are associated with the autosomal dominant disorder, encephalopathy, lethal, due to defective mitochondrial and peroxisomal fission (EMPF). Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jun 2013] |
| Function | <p>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. Also required for mitochondrial fission during mitosis. 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.</p> <p>Isoform 1 and isoform 4 inhibit peroxisomal division when overexpressed. [UniProt]</p> |
| Research Area | Cancer antibody; Cell Biology and Cellular Response antibody; Cell Death antibody; Metabolism antibody; Neuroscience antibody; Signaling Transduction antibody; Mitochondrial Fission antibody |
| Calculated Mw | 82 kDa |
| PTM | <p>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.</p> <p>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.</p> <p>S-nitrosylation increases DNM1L dimerization, mitochondrial fission and causes neuronal damage.</p> <p>Ubiquitination by MARCH5 affects mitochondrial morphology.</p> <p>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). [UniProt]</p> |



ARG66275 anti-DNM1L / DRP1 phospho (Ser637) antibody WB image

Western blot: 1) JK and 2, 3) K562 cells. 1, 2) Untreated; 3) Treated with antigen-specific peptide. The blots were stained with ARG66275 anti-DNM1L / DRP1 phospho (Ser637) antibody.