ARG55200
anti-DNM1L / DRP1 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes DNM1L / DRP1
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	DNM1L / DRP1
Species	Human
Immunogen	Recombinant protein of Human DNM1L (Swiss: O00429)
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

Application table

Application	Dilution
ICC/IF	1:50 - 1:200
IHC-P	1:50 - 1:200
WB	1:500 - 1:2000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	Raji and Mouse brain
Observed Size	~ 82 kDa

Properties

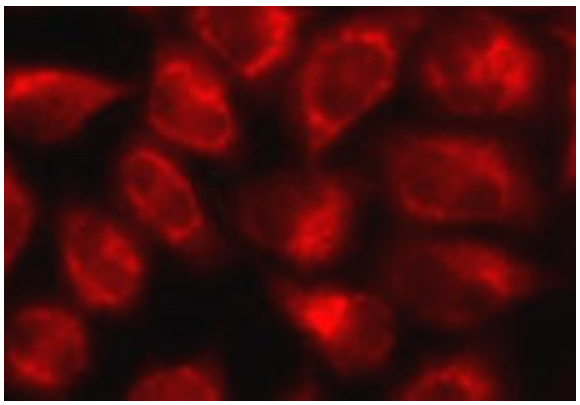
Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS (pH 7.3), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and 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.

Bioinformation

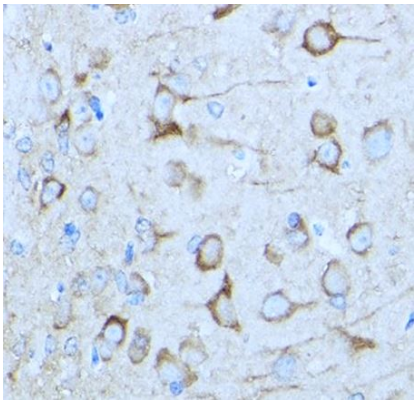
Gene Symbol	DNM1L
Gene Full Name	dynamin 1-like
Background	This gene encodes a member of the dynamin superfamily of GTPases. The encoded protein mediates mitochondrial and peroxisomal division, and is involved in developmentally regulated apoptosis and programmed necrosis. Dysfunction of this gene is 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	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. Isoform 1 and isoform 4 inhibit peroxisomal division when overexpressed. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30263 Mitochondrial fission Antibody Duo (Drp1, BAX) Related products: DNM1L antibodies; DNM1L Duos / Panels; Anti-Rabbit IgG secondary antibodies;
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	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).

Images



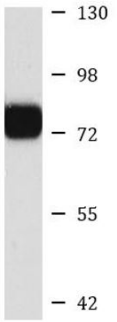
ARG55200 anti-DNM1L / DRP1 antibody ICC/IF image

Immunofluorescence: HeLa cells stained with ARG55200 anti-DNM1L / DRP1 antibody.



ARG55200 anti-DNM1L / DRP1 antibody IHC-P image

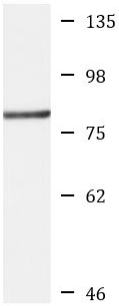
Immunohistochemistry: Paraffin-embedded Rat brain tissue stained with ARG55200 anti-DNM1L / DRP1 antibody at 1:250 dilution.



Raji

ARG55200 anti-DNM1L / DRP1 antibody WB image

Western blot: Raji cell lysate stained with ARG55200 anti-DNM1L / DRP1 antibody.



Mouse brain

ARG55200 anti-DNM1L / DRP1 antibody WB image

Western blot: 25 µg of Mouse brain lysate stained with ARG55200 anti-DNM1L / DRP1 antibody at 1:8000 dilution.