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KD-Validated Anti-DYNLL1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1512

Product Information

Application	WB, FC
Primary Accession	P63167
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB5245
Calculated MW	10366
Gene Name	DYNLL1
Aliases	DYNLL1; Dynein Light Chain LC8-Type 1; DLC1; DLC8; PIN; DNCL1; LC8; Protein Inhibitor Of Neuronal Nitric Oxide Synthase; Dynein, Cytoplasmic, Light Polypeptide 1; Dynein Light Chain 1, Cytoplasmic; 8 KDa Dynein Light Chain; DNCLC1; Hdlc1; HDLC1; Cytoplasmic Dynein Light Polypeptide; LC8a
Immunogen	A synthesized peptide derived from human DYNLL1

Additional Information

Gene ID	8655
Other Names	Dynein light chain 1, cytoplasmic, 8 kDa dynein light chain, DLC8, Dynein light chain LC8-type 1, Protein inhibitor of neuronal nitric oxide synthase, PIN, DYNLL1 {ECO:0000303|Ref.9, ECO:0000312|HGNC:HGNC:15476}

Protein Information

Name	DYNLL1 {ECO:0000303|Ref.9, ECO:0000312|HGNC:HGNC:15476}
Function	Component of dynein, a family of motor proteins essential for movement along microtubules (By similarity). Required for structural and functional integrity of cilia (By similarity). Acts as one of several non-catalytic accessory components of the cytoplasmic dynein 1 complex that are thought to be involved in linking dynein to cargos and to adapter proteins that regulate dynein function (By similarity). Cytoplasmic dynein 1 acts as a motor for the intracellular retrograde motility of vesicles and organelles along microtubules (By similarity). May play a role in changing or maintaining the spatial distribution of cytoskeletal structures (By similarity). In addition to its role in cytoskeleton and transport, acts as a protein-protein adapter, which inhibits and/or sequesters target proteins (PubMed:10198631, PubMed:15193260, PubMed:15891768, PubMed:16684779, PubMed:30464262, PubMed:37696958). Involved in the response to DNA damage by acting as a key regulator of DNA end resection: when phosphorylated at Ser-88, recruited to DNA double-strand breaks (DSBs) by TP53BP1 and acts by disrupting MRE11 dimerization, thereby inhibiting DNA end resection

(PubMed:30464262, PubMed:37696958). In a subset of DSBs, DYNLL1 remains unphosphorylated and promotes the recruitment of the Shieldin complex (PubMed:37696958). Binds and inhibits the catalytic activity of neuronal nitric oxide synthase/NOS1 (By similarity). Promotes transactivation functions of ESR1 and plays a role in the nuclear localization of ESR1 (PubMed:15891768, PubMed:16684779). Regulates apoptotic activities of BCL2L11 by sequestering it to microtubules (PubMed:10198631, PubMed:15193260). Upon apoptotic stimuli the BCL2L11- DYNLL1 complex dissociates from cytoplasmic dynein and translocates to mitochondria and sequesters BCL2 thus neutralizing its antiapoptotic activity (PubMed:10198631, PubMed:15193260).

Cellular Location

Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Chromosome. Cytoplasm, cytoskeleton. Nucleus Mitochondrion. Note=Upon induction of apoptosis translocates together with BCL2L11 to mitochondria (PubMed:18084006). Recruited to DNA double-strand breaks (DSBs) by TP53BP1 when phosphorylated at Ser-88 (PubMed:37696958)

Tissue Location

Ubiquitous (PubMed:8628263). Expressed in testis (PubMed:22965910).

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