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Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1)

Catalog # ABO15125

Specification

Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) - Product Information

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	P63167
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.

Reconstitution
Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.

Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) - 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}

Calculated MW
12 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human, Mouse, Rat
 Immunohistochemistry(Paraffin-embedded Section), 2-5 µg/ml, Human
 Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.

Immunogen
E.coli-derived human DYNLL1/PIN recombinant protein (Position: M1-G89).

Purification
Immunogen affinity purified.

Storage	**At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated**

freezing and thawing.

Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) - Protein Information

Name DYNLL1 {ECO:0000303|Ref.9, ECO:0000312|HGNC:HGNC:15476}

Function
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).

Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides

- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) - Images

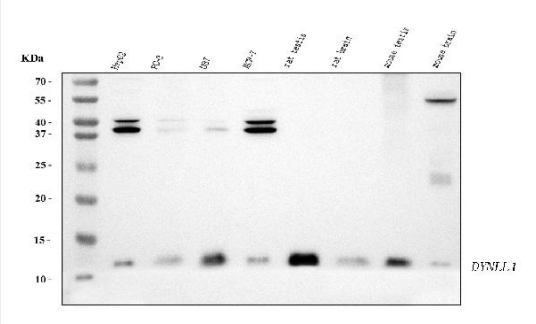

Figure 1. Western blot analysis of DYNLL1/PIN using anti-DYNLL1/PIN antibody (M03454-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HepG2 whole cell lysates,
Lane 2: human PC-3 whole cell lysates,
Lane 3: human U87 whole cell lysates,
Lane 4: human MCF-7 whole cell lysates,
Lane 5: rat testis tissue lysates,
Lane 6: rat brain tissue lysates,
Lane 7: mouse testis tissue lysates,
Lane 8: mouse brain tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-DYNLL1/PIN antigen affinity purified monoclonal antibody (Catalog # M03454-1) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for DYNLL1/PIN at approximately 12 kDa. The expected band size for DYNLL1/PIN is at 12 kDa.

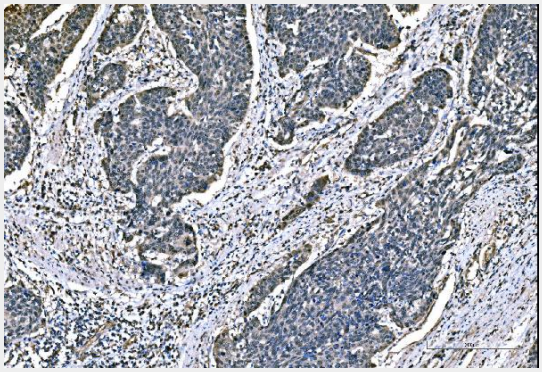

Figure 2. IHC analysis of DYNLL1/PIN using anti-DYNLL1/PIN antibody (M03454-1). DYNLL1/PIN was detected in a paraffin-embedded section of human bladder epithelial carcinoma

tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-DYNLL1/PIN Antibody (M03454-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

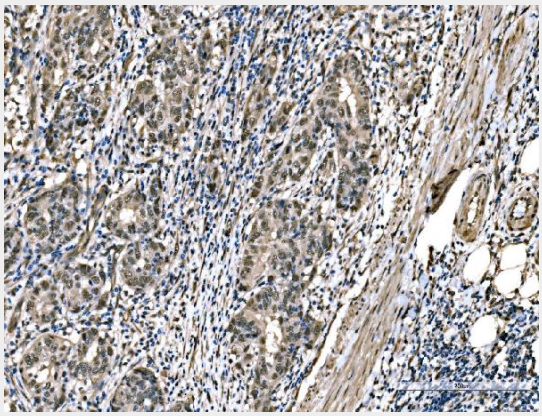

Figure 3. IHC analysis of DYNLL1/PIN using anti-DYNLL1/PIN antibody (M03454-1).
DYNLL1/PIN was detected in a paraffin-embedded section of human metaplasia of squamous cells of the renal pelvis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-DYNLL1/PIN Antibody (M03454-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

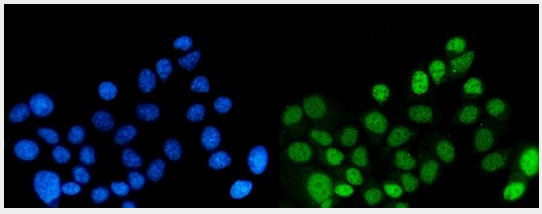

Figure 4. IF analysis of DYNLL1/PIN using anti-DYNLL1/PIN antibody (M00179-1).
DYNLL1/PIN was detected in an immunocytochemical section of MCF-7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-DYNLL1/PIN Antibody (M00179-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

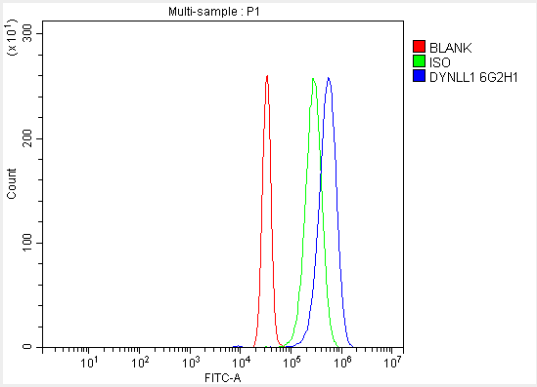

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Figure 5. Flow Cytometry analysis of SiHa cells using anti-DYNLL1/PIN antibody (M03454-1). Overlay histogram showing SiHa cells stained with M03454-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-DYNLL1/PIN Antibody (M03454-1, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-DYNLL1/PIN Antibody Picoband™ (monoclonal, 6G2H1) - Background

Dynein light chain 1, cytoplasmic is a protein that in humans is encoded by the DYNLL1 gene. Cytoplasmic dyneins are large enzyme complexes with a molecular mass of about 1,200 kD. They contain two force-producing heads formed primarily from dynein heavy chains, and stalks linking the heads to a basal domain, which contains a varying number of accessory intermediate chains. The complex is involved in intracellular transport and motility. The protein described in this record is a light chain and exists as part of this complex but also physically interacts with and inhibits the activity of neuronal nitric oxide synthase. Binding of this protein destabilizes the neuronal nitric oxide synthase dimer, a conformation necessary for activity, and it may regulate numerous biologic processes through its effects on nitric oxide synthase activity. Alternate transcriptional splice variants have been characterized.