**Product datasheet**

**Anti-DYNLL1 / PIN antibody [EP1660Y] ab51603**

- **Product name:** Anti-DYNLL1 / PIN antibody [EP1660Y]
- **Description:** Rabbit monoclonal [EP1660Y] to DYNLL1 / PIN
- **Host species:** Rabbit
- **Specificity:** ab51603 recognizes DLC8. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.

**Tested applications**

- Suitable for: Flow Cyt, WB, IHC-P, IP, ICC/IF

**Species reactivity**

- Reacts with: Mouse, Rat, Human, Drosophila melanogaster

**Immunogen**

- Synthetic peptide corresponding to Human DYNLL1/ PIN aa 1-100 (N terminal).

**Epitope**

- The epitope for this antibody is on the N-terminus, AA2-14.

**Positive control**


**General notes**

- Previously labelled as DYNLL1.
- Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents.
- We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.
- This product is a recombinant rabbit monoclonal antibody.

**Properties**

- **Form:** Liquid
- **Storage instructions:** Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. Stable for 12 months at -20°C.
- **Storage buffer:** pH: 7.20
  - Preservative: 0.01% Sodium azide
  - Constituents: 59% PBS, 40% Glycerol, 0.21% BSA
- **Purity:** Protein A purified
Clonality: Monoclonal

Clone number: EP1660Y

Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab51603 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
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<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>1/2300.</td>
</tr>
<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/1000 - 1/10000. Detects a band of approximately 10 kDa (predicted molecular weight: 10 kDa).</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>1/500. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.</td>
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<tr>
<td>IP</td>
<td></td>
<td>1/30. For unpurified use at 1/100.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/100 - 1/250.</td>
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Target

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. Cytoplasmic dynein 1 acts as a motor for the intracellular retrograde motility of vesicles and organelles along microtubules. May play a role in changing or maintaining the spatial distribution of cytoskeletal structures. Binds and inhibits the catalytic activity of neuronal nitric oxide synthase. Promotes transactivation functions of ESR1 and plays a role in the nuclear localization of ESR1. Regulates apoptotic activities of BCL2L11 by sequestering it to microtubules. Upon apoptotic stimuli the BCL2L11-DYNLL1 complex dissociates from cytoplasmic dynein and translocates to mitochondria and sequesters BCL2 thus neutralizing its antiapoptotic activity.

Tissue specificity: Ubiquitous.

Sequence similarities: Belongs to the dynein light chain family.

Post-translational modifications: Phosphorylation at Ser-88 appears to control the dimer-monomer transition. According to PubMed:15193260, it is phosphorylated at Ser-88 by PAK1, however, according to PubMed:18650427, the DYNLL1 dimer is not accessible for PAK1 and the phosphorylation could not be demonstrated in vitro.


Images
**Western blot - Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603)**

**All lanes**: Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603) at 1/10000 dilution (purified)

**Lane 1**: HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates

**Lane 2**: Mouse testis lysates

**Lane 3**: Rat testis lysates

Lysates/proteins at 20 µg per lane.

**Secondary**

**All lanes**: Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

**Predicted band size**: 10 kDa

**Observed band size**: 10 kDa

Blocking and diluting buffer: 5% NFDM/TBST

**Immunoprecipitation - Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603)**

ab51603 (purified) at 1:30 dilution (2ug) immunoprecipitating DYNLL1 / PIN in HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate.

**Lane 1 (input)**: HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10ug

**Lane 2 (+)**: ab51603 & HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate

**Lane 3 (-)**: Rabbit monoclonal IgG (ab172730) instead of ab51603 in HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate

For western blotting, VeriBlot for IP secondary antibody (HRP) (ab131366) was used as the secondary antibody at 1:1000 dilution. Blocking and diluting buffer: 5% NFDM/TBST.
Immunocytochemistry/Immunofluorescence analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling DYNLL1 with Purified ab51603 at 1:100 dilution (6.7μg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. ab150077 Goat anti rabbit IgG(Alexa Fluor® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human breast carcinoma tissue sections labeling DYNLL1/PIN with Purified ab51603 at 1:500 dilution (1.34 μg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.
**Western blot - Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603)**

This image is courtesy of an abreview submitted by Dr. Jörg Heierhorst.

- **All lanes**: Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603) at 1/5000 dilution (unpurified)

- **Lane 1**: Primary mouse Mb1-Cre control Eµ-Myc B cell lymphoma (lysate of whole lymphnode)
- **Lane 2**: Primary mouse Mb1-Cre Dynll1-conditional knockout Eµ-Myc B cell lymphoma (lysate of whole lymphnode)

**Secondary**
- **All lanes**: HRP conjugated polyclonal goat IgG at 1/5000 dilution

Performed under reducing conditions.

**Predicted band size**: 10 kDa

**Observed band size**: 10 kDa

**Exposure time**: 10 minutes

Lymphnodes were dissociated in PBS 2% FBS. Cell suspensions filtered through 70 µm and 40 µm cell strainers, and 300 x g pellets were lysed in modified RIPA buffer (150 mM NaCl, 20 mM Tris pH7.4, 1 mM EDTA, 1 mM EGTA, 10 mM NaF, 1% Triton X-100, 1% sodium deoxycholate, 0.1% SDS, 1 mM PMSF, 1 x protein inhibitor cocktail (Sigma)).

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603)**

Immunohistochemical staining of paraffin embedded human liver using unpurified ab51603 (1/100).
Flow cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling DYNLL1 / PIN (red) with purified ab51603 at a 1/2300 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.

Anti-DYNLL1 / PIN antibody [EP1660Y] (ab51603) at 1/10000 dilution (unpurified) + HeLa cell lysate at 10 µg

Secondary
Goat anti-rabbit HRP at 1/2000 dilution

Predicted band size: 10 kDa
Observed band size: 10 kDa

Unpurified ab51603 staining DLC8 in mouse kidney cells cells by ICC/IF (immunocytochemistry/immunofluorescence. Cells were fixed with methanol, permeabilized with 0.1% Triton and blocked with 1% milk for 1 hour at room temperature. The sample was incubated with primary antibody (1/400; 1% milk in PBS) for 16 hours at 4°C. An Alexa Fluor®488-conjugated Goat polyclonal to rabbit IgG (1/1000) was used as secondary antibody.

This image is courtesy of an anonymous Abreview
Unpurified ab51603 used in IP. SKAP and Astrin form a complex. (A, left) Silver-stained gels showing a one-step IP of GFPLAP-Astrin, GFPLAP-SKAP, or GFPLAP-LC8. (A, right) Data from the mass spectrometric analysis of the purifications indicating the percent sequence coverage from each IP. (B) Silver-stained gel showing the purification of FLAG-SKAP from chicken DT40 cells relative to controls. The indicated proteins were identified by excising them from a gel and analyzing them by mass spectrometry.

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