**Overview**

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-RAB10 (phospho T73) antibody [MJF-R21]</th>
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<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit monoclonal [MJF-R21] to RAB10 (phospho T73)</td>
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<tr>
<td><strong>Host species</strong></td>
<td>Rabbit</td>
</tr>
<tr>
<td><strong>Tested applications</strong></td>
<td>Suitable for: WB, Dot blot</td>
</tr>
<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Mouse, Human</td>
</tr>
<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide within Human RAB10 aa 50-150 (phospho T73). The exact sequence is proprietary. Database link: P61026</td>
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<td><strong>Positive control</strong></td>
<td>WB: Wild-type MEF whole cell lysate; LRRK2 [R1441C] knock-in MEF whole cell lysate; Wild-type whole cell lysate untreated and treated with 100 nM MLi-2 for 90 min; Rab8A knock-out whole cell lysate untreated and treated with 100 nM MLi-2 for 90 min; HEK-293 cells transfected with LRRK2 [Y1699C] and HA-tagged Rab10 expression vectors, treated with 150 nM MLi-2 for 90 min whole cell lysate.</td>
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<tr>
<td><strong>General notes</strong></td>
<td>Please see PMID: 29127256. Lis P et al. Development of phospho-specific Rab protein antibodies to monitor in vivo activity of the LRRK2 Parkinson's disease kinase. Biochem J 475:1-22 (2018). This antibody was developed with support from The Michael J. Fox Foundation.</td>
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</tbody>
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This product is a recombinant monoclonal antibody, which offers several advantages including:
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free production
For more information see here.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
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<tbody>
<tr>
<td>Storage buffer</td>
<td>Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA</td>
</tr>
<tr>
<td>Purity</td>
<td>Protein A purified</td>
</tr>
<tr>
<td>Clonality</td>
<td>Monoclonal</td>
</tr>
<tr>
<td>Clone number</td>
<td>MJF-R21</td>
</tr>
<tr>
<td>Isotype</td>
<td>IgG</td>
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</table>

Applications

Our Abpromise guarantee covers the use of ab230261 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td></td>
<td>1/1000. Detects a band of approximately 23 kDa (predicted molecular weight: 23 kDa).</td>
</tr>
<tr>
<td>Dot blot</td>
<td></td>
<td>1/1000.</td>
</tr>
</tbody>
</table>

Target

Function

The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes. Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is able to recruit to membranes different set of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion (By similarity). That Rab is mainly involved in the biosynthetic transport of proteins from the Golgi to the plasma membrane. Regulates, for instance, SLC2A4/GLUT4 glucose transporter-enriched vesicles delivery to the plasma membrane. In parallel, it regulates the transport of TLR4, a toll-like receptor to the plasma membrane and therefore may be important for innate immune response. Plays also a specific role in asymmetric protein transport to the plasma membrane within the polarized neuron and epithelial cells. In neurons, it is involved in axonogenesis through regulation of vesicular membrane trafficking toward the axonal plasma membrane while in epithelial cells, it regulates transport from the Golgi to the basolateral membrane. Moreover, may play a role in the basolateral recycling pathway and in phagosome maturation. According to PubMed:23263280,
may play a role in endoplasmic reticulum dynamics and morphology controlling tubulation along microtubules and tubules fusion.

**Sequence similarities**
Belongs to the small GTPase superfamily. Rab family.

**Cellular localization**

**Images**

All lanes: Anti-RAB10 (phospho T73) antibody [MJF-R21] (ab230261) at 1/1000 dilution

Lane 1: Wild-type A549 (human lung carcinoma cell line) whole cell lysate
Lane 2: Wild-type A549 treated with 100 nM MLi-2 for 90 minutes, whole cell lysate
Lane 3: Rab8A knock-out A549 whole cell lysate
Lane 4: Rab8A knock-out A549 treated with 100 nM MLi-2 for 90 minutes, whole cell lysate
Lane 5: Rab10 knock-out A549 whole cell lysate
Lane 6: Rab10 knock-out A549 treated with 100 nM MLi-2 for 90 minutes, whole cell lysate

Lysates/proteins at 20 µg per lane.

**Secondary**

All lanes: HRP-labeled secondary antibody at 1/2500 dilution

Predicted band size: 23 kDa
Observed band size: 23 kDa

**Blocking buffer**: 5% NFDM/TBST.

**Dilution buffer**: 5% BSA/TBST.

The images were kindly provided by our collaborator, Dr. Dario Alessi, and have been published (PMID: 29127256).

Scanned with Licor Odyssey CLx.
**Western blot - Anti-RAB10 (phospho T73) antibody [MJF-R21]**

**All lanes**: Anti-RAB10 (phospho T73) antibody [MJF-R21] (ab230261) at 1/1000 dilution

**Lane 1**: HEK-293 (human epithelial cell line from embryonic kidney) cells transfected with LRRK2 [Y1699C] and HA-tagged Rab3A expression vectors, were treated with 150 nM MLi-2 for 90 minutes, whole cell lysate

**Lane 2**: HEK-293 cells transfected with LRRK2 [Y1699C] and HA-tagged Rab8A expression vectors, were treated with 150 nM MLi-2 for 90 minutes, whole cell lysate

**Lane 3**: HEK-293 cells transfected with LRRK2 [Y1699C] and HA-tagged Rab10 expression vectors, were treated with 150 nM MLi-2 for 90 minutes, whole cell lysate

**Lane 4**: HEK-293 cells transfected with LRRK2 [Y1699C] and HA-tagged Rab35 expression vectors, were treated with 150 nM MLi-2 for 90 minutes, whole cell lysate

**Lane 5**: HEK-293 cells transfected with LRRK2 [Y1699C] and HA-tagged Rab43 expression vectors, were treated with 150 nM MLi-2 for 90 minutes, whole cell lysate

Lysates/proteins at 0.1 µg per lane.

**Secondary**

**All lanes**: IRDye 800CW secondary antibody at 1/25000 dilution

**Predicted band size**: 23 kDa

**Observed band size**: 23 kDa

**Blocking buffer**: 5% NFDM/TBST.

**Dilution buffer**: 5% BSA/TBST.

The LRRK2 pathogenic mutation Y1699C increases LRRK2 activity and markedly elevates the phosphorylation of Rab proteins.

The images were kindly provided by our collaborator Dr. Dario Alessi, and have been published (PMID: 29127256).

Scanned with Licor Odyssey CLx.
**Western blot** - Anti-RAB10 (phospho T73) antibody [MJF-R21] (ab230261)

- **All lanes**: Anti-RAB10 (phospho T73) antibody [MJF-R21] (ab230261) at 1/1000 dilution

- **Lane 1**: Wild-type MEF (mouse embryonic fibroblast cell line) whole cell lysate
- **Lane 2**: Wild-type MEF treated with 100 nM MLi-2 for 90 minutes, whole cell lysate
- **Lane 3**: LRRK2 [R1441C] knock-in MEF whole cell lysate
- **Lane 4**: LRRK2 [R1441C] knock-in MEF treated with 100 nM MLi-2 for 90 minutes, whole cell lysate

Lysates/proteins at 20 µg per lane.

**Secondary**

- **All lanes**: Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

**Predicted band size**: 23 kDa

**Observed band size**: 23 kDa

**Exposure time**: 3 minutes

**Blocking/Dilution buffer**: 5% NFDM/TBST.

The LRRK2 pathogenic mutation R1441C increases LRRK2 activity and markedly elevates Rab10 phosphorylation in MEF (mouse embryonic fibroblasts).

The expression pattern is consistent with the literature (PMID: 29127256).

The cell lysates were kindly provided by our collaborator, Dr. Dario Alessi.
Dot blot analysis of Rab10 (phospho T73) labeled with ab230261 at 1/1000 dilution.

**Lane 1**: Rab10 (phospho T73) peptide;  
**Lane 2**: Rab10 non-phospho peptide.

Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100,000 dilution was used as secondary antibody.

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: 32 seconds.

Please note: All products are “FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES”

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