**Product datasheet**

**Anti-MEK1 (phospho S298) antibody [EPR3338] ab96379**

**Overview**

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-MEK1 (phospho S298) antibody [EPR3338]</th>
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</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit monoclonal [EPR3338] to MEK1 (phospho S298)</td>
</tr>
<tr>
<td><strong>Host species</strong></td>
<td>Rabbit</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>ab96379 detects MEK1 phosphorylated at threonine 298.</td>
</tr>
</tbody>
</table>
| **Tested applications** | Suitable for: IHC-P, ICC/IF, WB, IHC-Fr  
Unsuitable for: Flow Cyt or IP |
| **Species reactivity** | Reacts with: Mouse, Rat, Human |
| **Immunogen**    | A phospho specific peptide corresponding to residues surrounding serine 298 of Human MEK1. |
| **Positive control** | WB: HeLa cell lysates  
IHC-P: colonic carcinoma tissue  
ICC/IF: HeLa cells |
| **General notes** | A trial size is available to purchase for this antibody.  
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents.  
This product is a recombinant rabbit monoclonal antibody. |

**Properties**

<table>
<thead>
<tr>
<th><strong>Form</strong></th>
<th>Liquid</th>
</tr>
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<tbody>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.</td>
</tr>
</tbody>
</table>
| **Storage buffer** | pH: 7.20  
Preservative: 0.01% Sodium azide  
Constituents: 9% PBS, 40% Glycerol, 0.05% BSA, 50% Tissue culture supernatant |
| **Purity**        | Tissue culture supernatant |
| **Clonality**     | Monoclonal |
| **Clone number**  | EPR3338 |
| **Isotype**       | IgG |

**Applications**
Application notes

Our Abpromise guarantee covers the use of ab96379 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>
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<tbody>
<tr>
<td>IHC-P</td>
<td></td>
<td>1/100 - 1/250.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>★★★★★</td>
<td>1/100 - 1/250.</td>
</tr>
<tr>
<td>WB</td>
<td>★★★★★</td>
<td>1/1000 - 1/5000. Detects a band of approximately 45 kDa (predicted molecular weight: 43 kDa).</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>1/100 - 1/250.</td>
</tr>
</tbody>
</table>

Application notes

Is unsuitable for Flow Cyt or IP.

Target

Function

Catalyzes the concomitant phosphorylation of a threonine and a tyrosine residue in a Thr-Glu-Tyr sequence located in MAP kinases. Activates ERK1 and ERK2 MAP kinases.

Tissue specificity

Widely expressed, with extremely low levels in brain.

Involvement in disease

Defects in MAP2K1 are a cause of cardiofaciocutaneous syndrome (CFC syndrome) [MIM:115150]; also known as cardio-facio-cutaneous syndrome. CFC syndrome is characterized by a distinctive facial appearance, heart defects and mental retardation. Heart defects include pulmonic stenosis, atrial septal defects and hypertrophic cardiomyopathy. Some affected individuals present with ectodermal abnormalities such as sparse, friable hair, hyperkeratotic skin lesions and a generalized ichthyosis-like condition. Typical facial features are similar to Noonan syndrome. They include high forehead with bitemporal constriction, hypoplastic supraorbital ridges, downslanting palpebral fissures, a depressed nasal bridge, and posteriorly angulated ears with prominent helices. The inheritance of CFC syndrome is autosomal dominant.

Sequence similarities

Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. MAP kinase kinase subfamily.

Contains 1 protein kinase domain.

Post-translational modifications

Phosphorylation on Ser/Thr by MAP kinase kinase kinases (RAF or MEKK1) regulates positively the kinase activity.

Acetylation by Yersinia yopJ prevents phosphorylation and activation, thus blocking the MAPK signaling pathway.

Images
Western blot - Anti-MEK1 (phospho S298) antibody [EPR3338] (ab96379)

All lanes: Anti-MEK1 (phospho S298) antibody [EPR3338] (ab96379) at 1/1000 dilution

Lane 1: HeLa cell lysates
Lane 2: HeLa cell lysates treated with LP

Lysates/proteins at 10 µg per lane.

Secondary
All lanes: HRP/AP polymerized antibody

Predicted band size: 43 kDa
Observed band size: 45 kDa
why is the actual band size different from the predicted?

Immunocytochemistry/Immunofluorescence - Anti-MEK1 (phospho S298) antibody [EPR3338] (ab96379)

This image is courtesy of an anonymous Abreview

ab96379 staining MEK1 (phospho S298) in the NIH3T3 cell line from Mouse fibroblasts by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with paraformaldehyde and blocked with 10% serum for 60 minutes at 24°C. Samples were incubated with primary antibody (1/100) for 16 hours at 4°C. An Alexa Fluor®488-conjugated Donkey anti-rabbit polyclonal (1/500) was used as the secondary antibody.
ab96379, at a 1/100 dilution, staining MEK1 in paraffin embedded Human colonic carcinoma tissue by Immunohistochemical analysis.

ab96379, at a 1/100 dilution, staining MEK1 in HeLa cells by Immunofluorescent analysis.

ab96379 showing positive staining in Thyroid gland carcinoma tissue.
ab96379 showing positive staining in Glioma tissue.

ab96379 showing positive staining in Ovarian carcinoma tissue.

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with CNQX (ab120017), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of CNQX, as described in literature.

The cells were incubated at 37°C for 24h in media containing different concentrations of ab120017 (CNQX) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.
ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with CNQX disodium salt (ab120044), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of CNQX disodium salt, as described in literature. The cells were incubated at 37°C for 24h in media containing different concentrations of ab120044 (CNQX disodium salt) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with NBQX disodium salt (ab120046), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of NBQX disodium salt, as described in literature. The cells were incubated at 37°C for 24h in media containing different concentrations of ab120046 (NBQX disodium salt) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with DNQX disodium salt (ab120169), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of DNQX disodium salt, as described in literature. The cells were incubated at 37°C for 3h in media containing different concentrations of ab120169 (DNQX disodium salt) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.
ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with (S)-5-Chlorowillardiine (ab120062), by ICC/IF. Increase in MEK1 (phospho S298) expression correlates with increased concentration of (S)-5-Chlorowillardiine, as described in literature. The cells were incubated at 37°C for 24h in media containing different concentrations of ab120062 ((S)-5-Chlorowillardiine) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with (S)-5-Nitrowillardiine (ab120063), by ICC/IF. Increase in MEK1 (phospho S298) expression correlates with increased concentration of (S)-5-Nitrowillardiine, as described in literature. The cells were incubated at 37°C for 24h in media containing different concentrations of ab120063 ((S)-5-Nitrowillardiine) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with (R,S)-AMPA (ab120130), by ICC/IF. Increase in MEK1 (phospho S298) expression correlates with increased concentration of (R,S)-AMPA, as described in literature. The cells were incubated at 37°C for 24h in media containing different concentrations of ab120130 ((R,S)-AMPA) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.
Immunocytochemistry/ Immunofluorescence - Anti-MEK1 (phospho S298) antibody [EPR3338] (ab96379)

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with (S)-AMPA (ab120005), by ICC/IF. Increase in MEK1 (phospho S298) expression correlates with increased concentration of (S)-AMPA, as described in literature.

The cells were incubated at 37°C for 6h in media containing different concentrations of ab120005 ((S)-AMPA) in water, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

Immunocytochemistry/ Immunofluorescence - Anti-MEK1 (phospho S298) antibody [EPR3338] (ab96379)

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with GYKI 52466 (ab120336), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of GYKI 52466, as described in literature.

The cells were incubated at 37°C for 1h in media containing different concentrations of ab120336 (GYKI 52466) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

Immunocytochemistry/ Immunofluorescence - Anti-MEK1 (phospho S298) antibody [EPR3338] (ab96379)

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with NBQX (ab120045), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of NBQX, as described in literature.

The cells were incubated at 37°C for 1h in media containing different concentrations of ab120045 (NBQX) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.
ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with DNQX (ab120018), by ICC/IF. Decrease in MEK1 (phospho S298) expression correlates with increased concentration of DNQX, as described in literature.

The cells were incubated at 37°C for 1h in media containing different concentrations of ab120018 (DNQX) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

ab96379 staining MEK1 (phospho S298) in SK-N-SH cells treated with (S)-Williardine (ab120040), by ICC/IF. Increase in MEK1 (phospho S298) expression correlates with increased concentration of (S)-Williardine, as described in literature.

The cells were incubated at 37°C for 6h in media containing different concentrations of ab120040 ((S)-Williardine) in DMSO, fixed with 4% formaldehyde for 10 minutes at room temperature and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab96379 (1/100 dilution) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (ab96899) at 1/250 dilution was used as the secondary antibody.

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