# Product datasheet

**Anti-GFAP antibody [EPR1034Y] ab68428**

![Recombinant RabMab®]

| ⭐⭐⭐⭐⭐ 5 Abreviews | 10 References | 12 Images |

## Overview

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-GFAP antibody [EPR1034Y]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit monoclonal [EPR1034Y] to GFAP</td>
</tr>
<tr>
<td><strong>Host species</strong></td>
<td>Rabbit</td>
</tr>
<tr>
<td><strong>Tested applications</strong></td>
<td>Suitable for: WB, IP, IHC-P</td>
</tr>
<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Mouse, Rat, Human</td>
</tr>
<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide within Human GFAP aa 1 to the C-terminus (N terminal). The exact sequence is proprietary.</td>
</tr>
<tr>
<td><strong>Positive control</strong></td>
<td>WB: Human, Mouse and Rat brain tissue lysate; Human, Mouse and Rat cerebellum tissue lysate; IHC-P: Mouse brain, cerebral cortex and liver tissue sections; Human brain, cerebral cortex, hippocampus, colon and glioma tissue sections ICC/IF: Mouse cerebellum IP: Rat brain whole cell lysate</td>
</tr>
<tr>
<td><strong>General notes</strong></td>
<td>Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th><strong>Form</strong></th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td><strong>Storage buffer</strong></td>
<td>pH: 7.20</td>
</tr>
<tr>
<td></td>
<td>Preservative: 0.01% Sodium azide</td>
</tr>
<tr>
<td></td>
<td>Constituents: 59% PBS, 40% Glycerol, 0.21% BSA</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Protein A purified</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Monoclonal</td>
</tr>
</tbody>
</table>
Clone number: EPR1034Y

Isotype: IgG

Function:
GFAP, a class-III intermediate filament, is a cell-specific marker that, during the development of the central nervous system, distinguishes astrocytes from other glial cells.

Tissue specificity:
Expressed in cells lacking fibronectin.

Involvement in disease:
Defects in GFAP are a cause of Alexander disease (ALEXD) [MIM:203450]. Alexander disease is a rare disorder of the central nervous system. It is a progressive leukoencephalopathy whose hallmark is the widespread accumulation of Rosenthal fibers which are cytoplasmic inclusions in astrocytes. The most common form affects infants and young children, and is characterized by progressive failure of central myelination, usually leading to death usually within the first decade. Infants with Alexander disease develop a leukoencephalopathy with macrocephaly, seizures, and psychomotor retardation. Patients with juvenile or adult forms typically experience ataxia, bulbar signs and spasticity, and a more slowly progressive course.

Sequence similarities:
Belongs to the intermediate filament family.

Post-translational modifications:
Phosphorylated by PKN1.

Cellular localization:
Cytoplasm. Associated with intermediate filaments.

Applications

Our Abpromise guarantee covers the use of ab68428 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>1/10000. Detects a band of approximately 50 kDa (predicted molecular weight: 50 kDa). For unpurified use at 1/50 000 - 1/100 000.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>1/20 - 1/40.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>★★★★★</td>
<td>1/250 - 1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See IHC antigen retrieval protocols.</td>
</tr>
</tbody>
</table>

Target

Function:
GFAP, a class-III intermediate filament, is a cell-specific marker that, during the development of the central nervous system, distinguishes astrocytes from other glial cells.

Tissue specificity:
Expressed in cells lacking fibronectin.

Involvement in disease:
Defects in GFAP are a cause of Alexander disease (ALEXD) [MIM:203450]. Alexander disease is a rare disorder of the central nervous system. It is a progressive leukoencephalopathy whose hallmark is the widespread accumulation of Rosenthal fibers which are cytoplasmic inclusions in astrocytes. The most common form affects infants and young children, and is characterized by progressive failure of central myelination, usually leading to death usually within the first decade. Infants with Alexander disease develop a leukoencephalopathy with macrocephaly, seizures, and psychomotor retardation. Patients with juvenile or adult forms typically experience ataxia, bulbar signs and spasticity, and a more slowly progressive course.

Sequence similarities:
Belongs to the intermediate filament family.

Post-translational modifications:
Phosphorylated by PKN1.

Cellular localization:
Cytoplasm. Associated with intermediate filaments.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GFAP antibody [EPR1034Y] (ab68428)

Immunohistochemical analysis of formalin-fixed paraffin-embedded human brain (left) and human glioma (right) tissue sections labelling GFAP with unpurified ab68428 at dilution of 1/250.

IHC image of GFAP staining in a formalin fixed, paraffin embedded normal human hippocampus tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab68428 at 1/100 dilution for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
**Western blot - Anti-GFAP antibody [EPR1034Y] (ab68428)**

**All lanes:** Anti-GFAP antibody [EPR1034Y] (ab68428) at 1/10000 dilution

**Lane 1:** Human cerebellum tissue lysate at 20 µg

**Lane 2:** Human brain tissue lysate at 10 µg

**Secondary**

**All lanes:** Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

**Predicted band size:** 50 kDa

**Observed band size:** 48-50 kDa

**why is the actual band size different from the predicted?**

**Blocking and Diluting buffer** 5% NFDM/TBST

Immunohistochemical analysis of paraffin-embedded human cerebral cortex tissue sections labelling GFAP with purified ab68428 at a dilution of 1/500. The secondary antibody used was ab97051, Goat Anti-Rabbit IgG H&L (HRP) at a dilution of 1/500. The sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.
Western blot - Anti-GFAP antibody [EPR1034Y] (ab68428)

All lanes: Anti-GFAP antibody [EPR1034Y] (ab68428) at 1/10000 dilution

Lane 1: Mouse cerebellum tissue lysate
Lane 2: Mouse brain tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 50 kDa
Observed band size: 50 kDa

Blocking and Diluting buffer 5% NFDM/TBST

Immunohistochemical analysis of paraffin-embedded mouse cerebral cortex tissue sections labelling GFAP with purified ab68428 at a dilution of 1/500. The secondary antibody used was ab97051, Goat Anti-Rabbit IgG H&L (HRP) at a dilution of 1/500. The sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.
Western blot - Anti-GFAP antibody [EPR1034Y] (ab68428)

All lanes: Anti-GFAP antibody [EPR1034Y] (ab68428) at 1/50000 dilution

Lane 1: Rat cerebellum tissue lysate
Lane 2: Rat brain tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 50 kDa
Observed band size: 50 kDa

Blocking and Diluting buffer 5% NFDM/TBST

Immunohistochemical analysis of paraffin-embedded human colon tissue sections labelling GFAP with purified ab68428 at a dilution of 1/500. The secondary antibody used was ab97051, Goat Anti-Rabbit IgG H&L (HRP) at a dilution of 1/500. The sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0.
ab68428 at 1/20 dilution immunoprecipitating GFAP in rat brain whole cell lysate observed at 50 KDa (lanes 1 and 2).

Lane 1 (input): Rat brain whole cell lysate 10ug
Lane 2 (+): ab68428 + Rat brain whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab68428 in Rat brain whole cell lysate

For western blotting, ab68428 was used followed by VeriBlot for IP (HRP) (ab131366) as the secondary antibody at a dilution of 1/10,000.

Blocking and Diluting buffer and concentration: 5% NFDM/TBST.

All lanes : Anti-GFAP antibody [EPR1034Y] (ab68428) at 1/5000 dilution (unpurified)

Lane 1 : Human brain lysate
Lane 2 : Rat brain lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : HRP labelled Goat anti-Rabbit antibody at 1/2000 dilution

Predicted band size: 50 kDa
Observed band size: 50 kDa
Immunohistochemical analysis of paraffin-embedded mouse liver tissue sections labelling GFAP with purified ab68428 at a dilution of 1/500. The secondary antibody used was ab97051, Goat Anti-Rabbit IgG H&L (HRP) at a dilution of 1/500. The sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0.

Immunohistochemical analysis of formalin-fixed paraffin-embedded mouse brain tissue section labelling GFAP with unpurified ab68428 at dilution of 1/250.

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