## Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-GFAP antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rabbit polyclonal to GFAP</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Specificity</td>
<td>Specifically recognizes mammalian GFAP on western blots and immunocytochemically. Detects a band of 55kDa corresponding to GFAP and also a GFAP derived 48kDa band. Some customers have successfully used ab7260 on Zebrafish lysates; however we have conflicting data to suggest that not all batches will be suitable for work on Zebrafish. For further information, please contact Abcam Scientific Support.</td>
</tr>
<tr>
<td>Tested applications</td>
<td>Suitable for: IHC-FoFr, IHC-Fr, IHC-FrFl, ICC/IF, WB, IHC-P, IHC - Wholemount, ICC</td>
</tr>
<tr>
<td>Species reactivity</td>
<td>Reacts with: Mouse, Rat, Cat, Dog, Human, Common marmoset Predicted to work with: Cow, Pig, Mammals</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Full length native protein (purified) corresponding to Human GFAP.</td>
</tr>
<tr>
<td>Positive control</td>
<td>IHC-P: FFPE mouse brain normal. IHC-P: FFPE rat brain normal.</td>
</tr>
<tr>
<td>General notes</td>
<td>In some cases, the antibody may appear red in color. This is due to small amounts of hemolysis, and does not affect antibody performance.</td>
</tr>
</tbody>
</table>

## Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage instructions</td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td>Storage buffer</td>
<td>Preservative: 0.01% Sodium azide</td>
</tr>
<tr>
<td>Purity</td>
<td>Whole antiserum</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Isotype</td>
<td>IgG</td>
</tr>
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</table>

## Applications

Our Abpromise guarantee covers the use of ab7260 in the following tested applications.

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

### 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.

### Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-FoFr</td>
<td>★★★★★★</td>
<td>1/5000. See Abreview.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>★★★★★★</td>
<td>1/500.</td>
</tr>
<tr>
<td>IHC-FrFI</td>
<td>★★★★★★</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>★★★★★★</td>
<td>1/1000.</td>
</tr>
<tr>
<td>WB</td>
<td>★★★★★★</td>
<td>1/10000. Detects a band of approximately 55,48 kDa. This lower 48kDa band is thought to be a degradation product.</td>
</tr>
<tr>
<td>IHC - Wholemount</td>
<td>★★★★★★</td>
<td>1/100.</td>
</tr>
<tr>
<td>ICC</td>
<td>★★★★★★</td>
<td>1/5000.</td>
</tr>
</tbody>
</table>

### Notes

**Images**

Immunocytochemistry/Immunofluorescence of mixed neuron-glial cultures labelling rabbit GFAP (red channel) and chicken vimentin CPCA-Vim (green channel). The fibroblastic cells contain only vimentin and so are green, while astrocytes contain either vimentin and GFAP, so appearing golden, or predominantly GFAP, in which case they appear red. Blue is nuclear DNA stain.
IHC image of GFAP staining in a formalin fixed, paraffin embedded normal mouse brain tissue section, performed on a Leica Bond™ system using the standard protocol B. 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 ab7260 at 1/2000 dilution for 15 mins at room temperature. A goat anti-rabbit biotinylated secondary antibody was used to detect the primary, and visualized using an HRP conjugated ABC 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.
IHC image of GFAP staining in a formalin fixed, paraffin embedded normal rat brain 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 ab7260 at 1/2000 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 of whole rat cerebellum homogenate stained with ab7260 at dilution of 1:100,000. A prominent band running with an apparent SDS-PAGE molecular weight of ~55kDa corresponds to rodent GFAP. A lower band at ~48kDa is derived from the GFAP molecule.
**Western blot - Anti-GFAP antibody (ab7260)**

This image is courtesy of an anonymous Abreview

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Anti-GFAP antibody (ab7260) at 1/5000 dilution</td>
</tr>
<tr>
<td>1-3</td>
<td>Rat thoracotomy, spinal cord homogenate</td>
</tr>
<tr>
<td>4-5</td>
<td>Rat thoracotomy sham, spinal cord homogenate</td>
</tr>
<tr>
<td>6-7</td>
<td>Rat nerve transect sham, spinal cord homogenate</td>
</tr>
<tr>
<td>8-9</td>
<td>Rat nerve transect, spinal cord homogenate</td>
</tr>
</tbody>
</table>

Lysates/proteins at 30 µg per lane.

**Secondary**

| All    | HRP conjugated goat anti-rabbit at 1/3000 dilution |

Developed using the ECL technique.

**Observed band size:** 53 kDa

**Exposure time:** 1 minute

ab7260 staining GFAP in cells from mouse brain tissue sections by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with 0.1% Tween 20 in PBS and blocked with 1% BSA for 40 minutes at 25°C. Samples were incubated with primary antibody (1/1200 in TBS) for 24 hours at 4°C. **Goat Anti-Rabbit IgG H&L (DyLight® 488) (ab96883)** was used as the secondary antibody at a dilution of 1/200.
IHC - Wholemount of rat retina tissue labelling GFAP (red) with ab7260. Sample was incubated with primary antibody (1/100) for 18 hours at 4°C. A Phycoerythrin-conjugated goat anti-rabbit IgG monoclonal (1/1000) was used as the secondary antibody.

ab7260 at 1/10000 dilution staining Mouse cortical astrocytes by Immunocytochemistry. The cells were permeabilized with Triton/HEPES buffer prior to primary application. The antibody was incubated with the cells for 18 hours and then bound antibody was detected with an Alexa Fluor® 488 conjugated goat anti-rabbit antibody.

This image is courtesy of an Abreview submitted by Charmaine Noonan.

ab7260 staining rat brain tissue sections by IHC-P. Sections were fixed in formaldehyde and blocked with a commercially available blocking agent prior to incubating with ab7260, diluted 1/5000 for 20 hours at 4°C. A HRP conjugated mouse polyclonal (universal HRP polymer detection) antibody was used as the secondary.
**Western blot - Anti-GFAP antibody (ab7260)**

Anti-GFAP antibody (ab7260) at 1/5000 dilution + Rat Brain

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GFAP antibody (ab7260)**

Image is courtesy of an anonymous AbReview.

Immunohistochemical analysis of formaldehyde-fixed paraffin-embedded canine neuronal tissue sections, labelling GFAP with ab7260 at a dilution of 1/1000 incubated for 90 minutes at 25°C. Antigen retrieval was with 10mM citrate pH6.0 (heat mediated). Blocking was with 10% serum incubated for 30 minutes at 25°C. Secondary was a Goat anti-rabbit polyclonal Texas Red® conjugate at 1/200.

**Immunocytochemistry/ Immunofluorescence - Anti-GFAP antibody (ab7260)**

This image is courtesy of an Abreview submitted by Ms Nancy Nutile-McMenemy

ab7260 staining rat pup cortical preps by ICC/IF. The preps were grown for 14 days in culture and plated onto coverslips. The preps were acid/alcohol fixed and blocked prior to incubation with ab7260. Bound antibody was detected using an Alexa Fluor ®488 conjugated goat polyclonal antibody. Nuclei were visualised using DAPI.
Immunohistochemistry (Frozen sections) - Anti-GFAP antibody (ab7260)

This image is courtesy of an Abreview submitted by Ms Nancy Nutile-McMenemy

ab7260 at a 1/5000 dilution staining rat spinal cord tissue sections by IHC-Fr. Rats were transcardially perfused with 4% PFA. The tissue was post fixed 1 hour in 4% PFA and then 30% sucrose for three days. 20µm sections were cryostat cut. The primary antibody was incubated with the tissue sections for 18 hours. Bound antibody was detected using an Alexa Fluor ® 488 conjugated goat anti-rabbit polyclonal.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GFAP antibody (ab7260)

This image was kindly supplied by Dr Vladimir Milenkovic by Abreview

ab7260 staining GFAP in mouse eye tissue sections by Immunohistochemistry (paraffin embedded sections). Tissue was fixed with paraformaldehyde and a heat mediated antigen retrieval step was performed using citrate buffer pH 6.0. Samples were then permeabilized using 0.5% Triton X-100 and blocked with 5% serum for 20 minutes at 25°C; followed by incubation with the primary antibody, at a 1/500 dilution, for 16 hours at 4°C. The secondary antibody used was a goat anti-rabbit IgG conjugated to Alexa Fluor® 488 used at a 1/5000 dilution.

The retinal layers are: ganglion cells layer (GCL), inner plexiform layer (IPL), inner nuclear layer (INL), outer plexiform layer (OPL), outer nuclear layer (ONL), and photoreceptor outer segments (ROS). Nuclei were counterstained with DAPI.

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