### Overview

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-Glutaminase antibody [EP7212]</th>
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</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit monoclonal [EP7212] to Glutaminase</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: Flow Cyt, WB, IHC-P, ICC/IF</td>
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<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Human</td>
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<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide within Human Glutaminase aa 50-150. The exact sequence is proprietary. (Peptide available as ab206976)</td>
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<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 <a href="#">RabMAB® patents</a>. 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.</td>
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### Properties

<table>
<thead>
<tr>
<th><strong>Form</strong></th>
<th>Liquid</th>
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<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>
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<tr>
<td><strong>Storage buffer</strong></td>
<td>Preservative: 0.01% Sodium azide. Constituents: 40% Glycerol, 0.05% BSA, 59% PBS</td>
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<tr>
<td><strong>Purity</strong></td>
<td>Protein A purified</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Monoclonal</td>
</tr>
<tr>
<td><strong>Clone number</strong></td>
<td>EP7212</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG</td>
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</tbody>
</table>
**Function**
Catalyzes the first reaction in the primary pathway for the renal catabolism of glutamine.

**Tissue specificity**
KGA is expressed predominantly in brain and kidney but not in liver, isoform 3 is expressed principally in cardiac muscle and pancreas but not in liver or brain, and isoform 2 is expressed solely in cardiac and skeletal muscle.

**Sequence similarities**
Belongs to the glutaminase family.
Contains 1 ANK repeat.

**Cellular localization**
Mitochondrion.

## Applications

Our Abpromise guarantee covers the use of **ab156876** 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>Flow Cyt</td>
<td></td>
<td>1/400.</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>1/100 - 1/250. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See IHC antigen retrieval protocols.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td></td>
<td>1/250 - 1/500.</td>
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</tbody>
</table>

## Target

**Function**
Catalyzes the first reaction in the primary pathway for the renal catabolism of glutamine.

**Tissue specificity**
KGA is expressed predominantly in brain and kidney but not in liver, isoform 3 is expressed principally in cardiac muscle and pancreas but not in liver or brain, and isoform 2 is expressed solely in cardiac and skeletal muscle.

**Sequence similarities**
Belongs to the glutaminase family.
Contains 1 ANK repeat.

**Cellular localization**
Mitochondrion.
Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: GLS knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: HEK293 whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab156876 observed at 62 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab156876 was shown to specifically recognize GLS in wild-type HAP1 cells along with additional cross reactive bands. No bands were observed when GLS knockout samples were used. Wild-type and GLS knockout samples were subjected to SDS-PAGE. Ab156876 and ab8245 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/10,000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1/10,000 dilution for 1hr at room temperature before imaging.
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling Glutaminase with purified ab156876 at 1/250. Cells were fixed with 100% methanol and permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291, a mouse anti-tubulin (1/1000) and ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were also used.

Control 1: primary antibody (1/250) and secondary antibody, ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000).

Control 2: ab7291 (1/1000) and secondary antibody, ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000).

Flow cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Glutaminase (red) with ab156876 at a 1/400 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.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cerebral cortex tissue labelling Glutaminase with purified ab156876 at a dilution of 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

Western blot - Anti-Glutaminase antibody [EP7212] (ab156876)

All lanes : Anti-Glutaminase antibody [EP7212] (ab156876) at 10 µg (purified)

Lane 1 : Human fetal kidney tissue lysate
Lane 2 : HeLa whole cell lysate
Lane 3 : HEK293 whole cell lysate

Lysates/proteins at 10 µg per lane.

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

Predicted band size: 73 kDa
Observed band size: 65,73 kDa

Blocking and dilution buffer: 5% NFDM /TBST.

Recognizes endogenous levels of total Glutaminase protein (both the 73 kDa KGA and 65 kDa GAC isoforms).
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling Glutaminase with unpurified ab156876 antibody at a dilution of 1/250.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human glioma tissue labelling Glutaminase with purified ab156876 at a dilution of 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.
Western blot - Anti-Glutaminase antibody [EP7212] (ab156876)

All lanes: Anti-Glutaminase antibody [EP7212] (ab156876) at 1/1000 dilution (unpurified)

Lane 1: Human fetal brain extract
Lane 2: Human fetal kidney extract
Lane 3: HeLa cell lysate
Lane 4: 293T cell lysate

Lysates/proteins at 10 µg per lane.

Developed using the ECL technique.

Predicted band size: 73 kDa

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of normal human tonsil tissue labelling Glutaminase with unpurified ab156876.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of normal human brain tissue labelling Glutaminase with unpurified ab156876.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labelling Glutaminase with unpurified ab156876 at a dilution of 1/100.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human pancreas tissue labelling Glutaminase with unpurified ab156876 at a dilution of 1/100.

Unpurified ab156876 showing negative staining in Human skeletal muscle.
Unpurified ab156876 showing negative staining in Human heart.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutaminase antibody [EP7212(ABC)] (ab156876)

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