**Product datasheet**

**Anti-Glutathione antibody [D8] ab19534**

- **Product name**: Anti-Glutathione antibody [D8]
- **Description**: Mouse monoclonal [D8] to Glutathione
- **Host species**: Mouse
- **Specificity**: This antibody reacts with glutathione-protein complexes under non-reducing conditions.
- **Tested applications**:
  - Suitable for: IHC-FoFr, WB, IHC-Fr, IHC-P, Flow Cyt, IP, ELISA, ICC, ICC/IF
- **Species reactivity**: Reacts with: Species independent
- **Immunogen**: Glutathione conjugated to KLH

**Properties**

- **Form**: Liquid
- **Storage instructions**: Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term.
- **Storage buffer**: pH: 7.20
  - Preservative: 0.01% Sodium azide
  - Constituent: PBS
- **Purity**: Protein A purified
- **Clonality**: Monoclonal
- **Clone number**: D8
- **Isotype**: IgG2a

**Applications**

Our Abpromise guarantee covers the use of ab19534 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>IHC-FoFr</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 19833109</td>
</tr>
</tbody>
</table>
Glutathione is a small peptide composed of three amino acids: cysteine, glutamic acid, and glycine and is present in tissues in concentrations as high as one millimolar. It contains an unusual peptide linkage between the amine group of cysteine and the carboxyl group of the glutamate side chain. Glutathione is involved in detoxification, it binds to toxins, such as heavy metals, solvents, and pesticides, and transforms them into a form that can be excreted in urine or bile. It is also an important antioxidant, helping to maintain the -SH groups of proteins in their reduced form.

Chronic functional glutathione deficiency is associated with glucose 6-phosphate dehydrogenase deficiency, immune disorders, an increased incidence of malignancies, and in the case of HIV disease, probably accelerated pathogenesis of the disease. Acute manifestations of functional glutathione deficiency can be seen in those who have taken an overdosage of acetaminophen (paracetamol). This results in depletion of glutathione in the hepatocytes, leading to liver failure and death.

### Application

<table>
<thead>
<tr>
<th>Method</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>★★★★☆</td>
<td>1/1000. Use under non reducing condition. We recommend blocking with 5% milk (not BSA). While glutathione itself is too small to detect in WB, this antibody will detect all glutathionylated proteins. You may observe multiple bands at variable molecular weights depending on what proteins in your samples are glutathionylated.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>1/100 - 1/200.</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td>★★★★☆</td>
<td>Use at an assay dependent concentration. ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC</td>
<td>★★★★★</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>★★★★★</td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

### Target

Glutathione is a small peptide composed of three amino acids: cysteine, glutamic acid, and glycine and is present in tissues in concentrations as high as one millimolar. It contains an unusual peptide linkage between the amine group of cysteine and the carboxyl group of the glutamate side chain. Glutathione is involved in detoxification, it binds to toxins, such as heavy metals, solvents, and pesticides, and transforms them into a form that can be excreted in urine or bile. It is also an important antioxidant, helping to maintain the -SH groups of proteins in their reduced form. Chronic functional glutathione deficiency is associated with glucose 6-phosphate dehydrogenase deficiency, immune disorders, an increased incidence of malignancies, and in the case of HIV disease, probably accelerated pathogenesis of the disease. Acute manifestations of functional glutathione deficiency can be seen in those who have taken an overdosage of acetaminophen (paracetamol). This results in depletion of glutathione in the hepatocytes, leading to liver failure and death.

### Images
ab19534 staining Glutathione in cultured murine RAW 264.7 cells by Immunocytochemistry/ Immunofluorescence. Cells were fixed in paraformaldehyde, permeabilized using 0.1% Triton-X100 in 2% BSA for 15 minutes, blocked with 2% BSA for 1 hour at 22°C and then incubated with ab19534 at a 1/150 dilution for 16 hours at 4°C. The secondary used was an Alexa-Fluor 488 conjugated goat anti-mouse IgG (H+L) used at a 1/1000 dilution.

ab19534 at a 1/250 dilution detecting Glutathione in human monocytes by Flow Cytometry. An Alexa-Fluor 488 conjugated goat anti-mouse IgG (H+L) secondary was used at a 1/500 dilution.
ab19534 staining Glutathione in human neutrophils by Immunocytochemistry/Immunofluorescence.

Samples were fixed with 4% (w/v) paraformaldehyde in PBS, permeabilized with PBS containing 0.5% (w/v) saponin and 0.1% (w/v) bovine serum albumin, and then blocked with 1% (w/v) bovine serum albumin in PBS for 1 hour. ab19534 was used at 5µg/ml for 2 hours at room temperature. After washing with PBS, cells were incubated with Alexa 488-conjugated anti-mouse IgG at a 1/200 dilution.

ab19534 staining glutathione in A549 cells treated with apocynin (ab120615), by ICC/IF. Increase in glutathione expression correlates with increased concentration of apocynin, as described in literature.

The cells were incubated at 37°C for 24h in media containing different concentrations of ab120615 (apocynin) 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 ab19534 (10 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-mouse polyclonal antibody (ab96879) at 1/250 dilution was used as the secondary antibody.

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

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards
If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors