**Product datasheet**

**Anti-Myeloperoxidase antibody ab45977**

**Overview**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-Myeloperoxidase antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rabbit polyclonal to Myeloperoxidase</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Specificity</td>
<td>ab45977 has been batch tested using human lysates/tissues only. Some customers have successfully used ab45977 with rat. Please contact Abcam Scientific Support for more information.</td>
</tr>
<tr>
<td>Tested applications</td>
<td>Suitable for: IHC-Fr, ICC/IF, WB, IHC-P</td>
</tr>
<tr>
<td>Species reactivity</td>
<td>Reacts with: Human, Common marmoset</td>
</tr>
<tr>
<td></td>
<td>Predicted to work with: Rat</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Synthetic peptide conjugated to KLH derived from within residues 150 - 250 of Human Myeloperoxidase. Read Abcam's proprietary immunogen policy(Peptide available as ab45976.)</td>
</tr>
<tr>
<td>Positive control</td>
<td>WB: HL60 whole cell lysate. IHC-P: Human tonsil tissue sections. ICC-IF. HL60 cell line.</td>
</tr>
</tbody>
</table>

**Properties**

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
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<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: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4</td>
</tr>
<tr>
<td>Purity</td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Isotype</td>
<td>IgG</td>
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</table>

**Applications**

Our [Abpromise guarantee](#) covers the use of ab45977 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function
Part of the host defense system of polymorphonuclear leukocytes. It is responsible for microbicidal activity against a wide range of organisms. In the stimulated PMN, MPO catalyzes the production of hypohalous acids, primarily hypochlorous acid in physiologic situations, and other toxic intermediates that greatly enhance PMN microbicidal activity.

Involvement in disease
Defects in MPO are the cause of myeloperoxidase deficiency (MPD) [MIM:254600]. MPD is an autosomal recessive defect that results in disseminated candidiasis.

Sequence similarities
Belongs to the peroxidase family. XPO subfamily.

Cellular localization
Lysosome.

Images
ab45977 stained in HL60 cells. Cells were fixed with 100% methanol (5min) at room temperature and incubated with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 1h at room temperature to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab45977 at 5µg/ml and ab72791 (Mouse monoclonal to alpha Tubulin - Loading Control) at 1ug/ml overnight at +4°C. The secondary antibodies used were ab150081 used at 1 ug/ml (colored green) and ab150116 (pseudo-colored red) used at 2ug/ml for 1hour at room temperature. DAPI was used to stain the cell nuclei (colored blue) at a concentration of 1.43µM for 1hour at room temperature.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-Fr</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use a concentration of 5 - 10 µg/ml.</td>
</tr>
<tr>
<td>WB</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 84 kDa (predicted molecular weight: 84 kDa). Can be blocked with Myeloperoxidase peptide (ab45976).</td>
</tr>
<tr>
<td>IHC-P</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use a concentration of 1 µg/ml.</td>
</tr>
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</table>
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myeloperoxidase antibody (ab45977)

This image is courtesy of an Abreview submitted by Antibody Solutions Ltd.

ab45977 (1/50) staining Myeloperoxidase in paraffin-embedded human spleen tissue sections. Tissue underwent fixation in formaldehyde, heat-mediated antigen retrieval in citrate buffer pH 6.0 and blocking (5 minutes/peroxidase block and 10 minutes/protein block). For further experimental details please refer to abreview.

Western blot - Anti-Myeloperoxidase antibody (ab45977)

Anti-Myeloperoxidase antibody (ab45977) at 1 µg/ml + HL60 (Human promyelocytic leukemia cell line) Whole Cell Lysate at 20 µg

Secondary
Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 84 kDa
Observed band size: 84 kDa

Exposure time: 2 minutes

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 2% Bovine Serum Albumin before being incubated with ab45977 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody.
conjugated to HRP, and visualised using ECL development solution ab133406.

**ab23106** staining p53 in Mouse bone marrow cells by Immunocytochemistry/Immunofluorescence. Cells were fixed in formaldehyde and permeabilized in 0.1% Triton X-100 prior to blocking in 5% Goat serum for 2 hours at 25°C. The primary antibody was diluted 1/500 in PBS and incubated with the sample for 9 hours at 4°C. The secondary antibody was Alexa Fluor® 488-conjugated Goat anti-Rabbit polyclonal, diluted 1/500. Nuclei were counterstained blue with DAPI.

Immunohistochemical detection of Myeloperoxidase using antibody ab45977 on formaldehyde-fixed paraffin embedded Marmoset spleen sections. Antigen retrieval step: heat mediated in citric acid pH 6 HIER. Permeabilization: No Blocking step: 1% BSA for 10 mins at room temperature. Primary antibody diluted at 1/600 and incubated for 2 hours in TBS/BSA/azide. Secondary antibody: anti Rabbit IgG conjugated to biotin (1/200). Submitted image shows clear scattered cytoplasmic and (possibly secreted) positivity within the red pulp. Also, the blood vessel extending from upper middle to lower left of the image, shows clear, though lighter, granular positivity within the cytoplasm of 5 cells. Taken together, this is the pattern of positivity that I would expect.

IHC image of 45977 staining in human tonsil formalin fixed paraffin embedded 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 (pH 6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab45977, 1 µg/ml, 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.
Western blot - Anti-Myeloperoxidase antibody (ab45977)

Anti-Myeloperoxidase antibody (ab45977) at 1 µg/ml + HL60 (Human promyelocytic leukemia cell line) Whole Cell Lysate at 20 µg

**Secondary**

Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

**Predicted band size:** 84 kDa  
**Observed band size:** 84 kDa  
**Additional bands at:** 12 kDa, 35 kDa, 75 kDa. We are unsure as to the identity of these extra bands.

**Exposure time:** 3 minutes

The mature myeloperoxidase protein is a tetramer of two heavy chains (60 kDa) and two light chains (12 kDa). Our immunogen sequence is within the myeloperoxidase light chain. In HL60 cells, ab45977 detects bands at approximately 84-kDa, corresponding to the expected MW of full-length Myeloperoxidase protein, and at 12-kDa, corresponding to the expected MW of myeloperoxidase light chain.

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