**Product datasheet**

**Anti-HMGA1α / HMGA1b antibody - ChIP Grade ab4078**

2 Abreviews  24 References  3 Images

**Overview**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-HMGA1α / HMGA1b antibody - ChIP Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit polyclonal to HMGA1α / HMGA1b - ChIP Grade</td>
</tr>
<tr>
<td><strong>Host species</strong></td>
<td>Rabbit</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>This antibody detects, by Western blot on human GFP fusion proteins in cell lysate, both HMGA1α and the splice variant HMGA1b, but does not detect HMGA2 (see review and Western blot picture). The antibody has not yet been successfully used to detect endogenous protein.</td>
</tr>
<tr>
<td><strong>Tested applications</strong></td>
<td>Suitable for: WB, IHC-P, ICC/IF</td>
</tr>
<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Human</td>
</tr>
<tr>
<td></td>
<td>Predicted to work with: Mouse, Rat, Chicken, Zebrafish, Neurospora crassa, Chinese hamster</td>
</tr>
<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide corresponding to Human HMGA1α/ HMGA1b aa 1-100 conjugated to keyhole limpet haemocyanin. (Peptide available as ab20073)</td>
</tr>
<tr>
<td><strong>Positive control</strong></td>
<td>This antibody gave a positive result in human placenta FFPE tissue sections</td>
</tr>
</tbody>
</table>

**General notes**

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

**Properties**

<table>
<thead>
<tr>
<th>Form</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 or -80°C. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td><strong>Storage buffer</strong></td>
<td>pH: 7.40</td>
</tr>
<tr>
<td></td>
<td>Preservative: 0.02% Sodium azide</td>
</tr>
<tr>
<td></td>
<td>Constituent: PBS</td>
</tr>
</tbody>
</table>
Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

**Purity**
Immunogen affinity purified

**Clonality**
Polyclonal

**Isotype**
IgG

### Applications

**The Abpromise guarantee**
Our Abpromise guarantee covers the use of ab4078 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>★★★☆☆☆ (1)</td>
<td>1/1000. Detects a band of approximately 11 kDa (predicted molecular weight: 11.5 kDa).</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>1/250 - 1/500.</td>
<td>Although this antibody gives a specific signal in Immunofluorescence, we have had suggestions that strong background signals are seen. See review by Robert Hock and IF picture below.</td>
</tr>
</tbody>
</table>

### Target

**Function**
HMG-I/Y bind preferentially to the minor groove of A+T rich regions in double stranded DNA. It is suggested that these proteins could function in nucleosome phasing and in the 3'-end processing of mRNA transcripts. They are also involved in the transcription regulation of genes containing, or in close proximity to A+T-rich regions.

**Involvement in disease**
Note=A chromosomal aberration involving HMGA1 is found in pulmonary chondroid hamartoma. Translocation t(6;14)(p21;q23-24) with RAD51L1.

**Sequence similarities**
Belongs to the HMGA family. Contains 3 A.T hook DNA-binding domains.

**Post-translational modifications**
Constitutively phosphorylated on two or three sites. Phosphorylated upon DNA damage, probably by ATM or ATR. Hyperphosphorylated at early stages of apoptosis, followed by dephosphorylation and methylation, which coincides with chromatin condensation. Isoform HMG-Y can be phosphorylated by HIPK2. HMG-Y is not methylated. Methylation at Arg-58 is mutually exclusive with methylation at Arg-60.

**Cellular localization**
Nucleus. Chromosome.

### Images
Lanes 1-4: Anti-HMGA1a / HMGA1b antibody - ChIP Grade (ab4078) at 1/1000 dilution
Lanes 5-8: Anti-GFP

Lane 1: Whole cell lysate from HepG2 cells transfected with plasmids coding for hHMGA1a-GFP fusion proteins.
Lanes 2 & 6: Whole cell lysate from HepG2 cells transfected with plasmids coding for hHMGA1b-GFP fusion proteins
Lanes 3 & 7: Whole cell lysate from HepG2 cells transfected with plasmids coding for hHMGA2-GFP fusion proteins
Lane 4: Whole cell lysate from HepG2 cells transfected with plasmids coding for NLS-GFP fusion proteins
Lane 5: Whole cell lysate from HepG2 cells transfected with plasmids coding for hHMGA1a-GFP fusion proteins
Lane 8: Whole cell lysate from HepG2 cells transfected with plasmids coding for NLS-GFP fusion proteins

Secondary
All lanes: Anti-rabbit HRP at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 11.5 kDa
26kD protein (GFP).

Immunofluorescence on MCF-7 cells transfected with human HMGA1a-GFP using ab4078.
A: Hoechst stain
B: Phasecontrast
C: TexasRed HMG-I/HMG-Y (ab4078)
D: HMGA1a-GFP
E: Merge

IHC image of ab4078 staining in human placenta 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 (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab4078, 1µg/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.

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.

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

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