Product datasheet

Anti-Rb antibody [Rb1 1F8] ab24

Overview

Product name: Anti-Rb antibody [Rb1 1F8]
Description: Mouse monoclonal [Rb1 1F8] to Rb
Host species: Mouse
Specificity: This antibody reacts with hyperphosphorylated and un (under) phosphorylated forms of Rb protein.
Tested applications: Suitable for: WB, IP, IHC-Fr
Species reactivity: Reacts with: Mouse, Human
Predicted to work with: Chicken, Chimpanzee
Epitope: The epitope has been mapped between aa 703-772 of human RB1.
Positive control: Tested in a panel of human cell lines and CV-1 cell line (established from monkey kidney epithelium).

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer: Constituent: PBS
Purity: Protein A purified
Clonality: Monoclonal
Clone number: Rb1 1F8
Myeloma: Sp2/0-Ag14
Isotype: IgG1

Applications

Our Abpromise guarantee covers the use of ab24 in the following tested applications.
**Function**

Key regulator of entry into cell division that acts as a tumor suppressor. Promotes G0-G1 transition when phosphorylated by CDK3/cyclin-C. Acts as a transcription repressor of E2F1 target genes. The underphosphorylated, active form of RB1 interacts with E2F1 and represses its transcription activity, leading to cell cycle arrest. Directly involved in heterochromatin formation by maintaining overall chromatin structure and, in particular, that of constitutive heterochromatin by stabilizing histone methylation. Recruits and targets histone methyltransferases SUV39H1, KMT5B and KMT5C, leading to epigenetic transcriptional repression. Controls histone H4 'Lys-20' trimethylation. Inhibits the intrinsic kinase activity of TAF1. Mediates transcriptional repression by SMARCA4/BRG1 by recruiting a histone deacetylase (HDAC) complex to the c-FOS promoter. In resting neurons, transcription of the c-FOS promoter is inhibited by BRG1-dependent recruitment of a phospho-RB1-HDAC1 repressor complex. Upon calcium influx, RB1 is dephosphorylated by calcineurin, which leads to release of the repressor complex (By similarity). In case of viral infections, interactions with SV40 large T antigen, HPV E7 protein or adenovirus E1A protein induce the disassembly of RB1-E2F1 complex thereby disrupting RB1’s activity.

**Tissue specificity**

Expressed in the retina.

**Involvement in disease**

Childhood cancer retinoblastoma
Bladder cancer
Osteogenic sarcoma

**Sequence similarities**

Belongs to the retinoblastoma protein (RB) family.

**Domain**

The Pocket domain binds to the threonine-phosphorylated domain C, thereby preventing interaction with heterodimeric E2F/DP transcription factor complexes.

**Post-translational modifications**

Phosphorylated by CDK6 and CDK4, and subsequently by CDK2 at Ser-567 in G1, thereby releasing E2F1 which is then able to activate cell growth. Dephosphorylated at the late M phase. SV40 large T antigen, HPV E7 and adenovirus E1A bind to the underphosphorylated, active form of pRb. Phosphorylation at Thr-821 and Thr-826 promotes interaction between the C-terminal domain C and the Pocket domain, and thereby inhibits interactions with heterodimeric E2F/DP transcription factor complexes. Dephosphorylated at Ser-795 by calcineurin upon calcium stimulation. CDK3/cyclin-C-mediated phosphorylation at Ser-807 and Ser-811 is required for G0-G1 transition. Phosphorylated by CDK1 and CDK2 upon TGFB1-mediated apoptosis. N-terminus is methylated by METTL11A/NTM1 (By similarity). Monomethylation at Lys-810 by SMYD2 enhances phosphorylation at Ser-807 and Ser-811, and promotes cell cycle progression. Monomethylation at Lys-860 by SMYD2 promotes interaction with L3MBTL1. Acetylation at Lys-873 and Lys-874 regulates subcellular localization, at least during keratinocytes differentiation.

**Cellular localization**

Nucleus.

---

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>&lt;5</td>
<td>Use at an assay dependent concentration. Predicted molecular weight: 105 kDa.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>
Lysates prepared from lung and kidney of VerUTR transgenic and wildtype mice were analyzed by Western Blot probed with ab24.

Increased expression of Rb1 was detected in the organs from the VerUTR transgenic mice. Cells were seeded onto 6-well plates at 2×10^5 cells per well overnight. They were then transfected with 1 µg of VerUTR or control vector in combination with scrambled RNA or siRNA against VerUTR. Proteins were extracted 48 hours after transfection by lysing in 60 µl of lysis buffer containing protease inhibitors (150 mM NaCl, 25 mM Tris-HCl, pH 8.0, 0.5 mM EDTA, 1% Triton X-100, 8 M Urea, and 1x protease inhibitor cocktail). Tissues were disrupted in appropriate volume of lysis buffer depending on tissue weight. All samples were subjected to SDS-PAGE and then transferred to nitrocellulose membranes followed by incubating with ab24 at 1/500 dilution at 4°C overnight. The secondary antibody used was goat anti-mouse IgG at 1/2000 dilution at room temperature.

Anti-Rb antibody [Rb1 1F8] (ab24) at 1/1000 dilution + Human fibroblast nuclear cell lysate

**Secondary**

Mouse polyclonal-HRP conjugated

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 105 kDa  
**Observed band size:** 100-150 kDa

**why is the actual band size different from the predicted?**

**Exposure time:** 1 minute

Primary antibody was incubated for 16 hours.  
Blocked with 5% milk for 1 hour.

**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