

Product datasheet

Anti-Rb (phospho S780) antibody [EPR182(N)] ab173289

Recombinant RabMAb

★★★★★ [1 Abreviews](#) [15 References](#) [10 Images](#)

Overview

Product name	Anti-Rb (phospho S780) antibody [EPR182(N)]
Description	Rabbit monoclonal [EPR182(N)] to Rb (phospho S780)
Host species	Rabbit
Tested applications	Suitable for: Dot blot, IHC-P, WB Unsuitable for: Flow Cyt, ICC/IF or IP
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Jurkat cell lysate; Human thyroid gland carcinoma and testis tissues.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information see here . Our RabMAb [®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents .

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. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR182(N)
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab173289 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Dot blot		1/1000.
IHC-P	★★★★★ (1)	1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		1/10000. Predicted molecular weight: 106 kDa.

Application notes

Is unsuitable for Flow Cyt, ICC/IF or IP.

Target

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

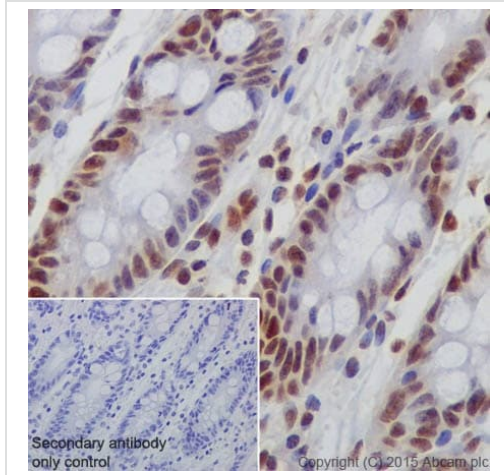
Phosphorylated by CDK6 and CDK4, and subsequently by CDK2 at Ser-567 in G1, thereby releasing E2F1 which is then able to activate cell growth. Dephosphorylated at the late M phase. SV40 large T antigen, HPV E7 and adenovirus E1A bind to the underphosphorylated, active form of pRb. Phosphorylation at 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.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289)

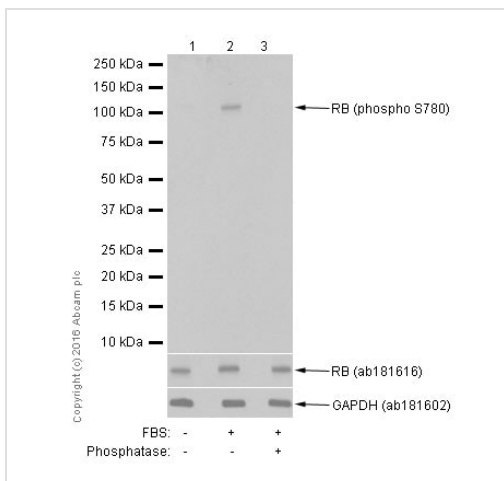
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Rb (phospho S780) with ab173289 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

Nucleus staining on normal human colon.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is [ab97051](#) at 1/500 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289)

All lanes : Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289) at 1/50000 dilution

Lane 1 : Jurkat (Human T cell leukemia T lymphocyte) serum starved for 44 h. Whole cell lysates

Lane 2 : Jurkat (Human T cell leukemia T lymphocyte) serum starved for 24 h. Then 10% FBS incubated for 20 h. Whole cell lysates

Lane 3 : Jurkat (Human T cell leukemia T lymphocyte) serum starved for 24 h. Then 10% FBS incubated for 20 h. Whole cell lysates Then the membrane was incubated with phosphatase.

Lysates/proteins at 15 µg per lane.

Secondary

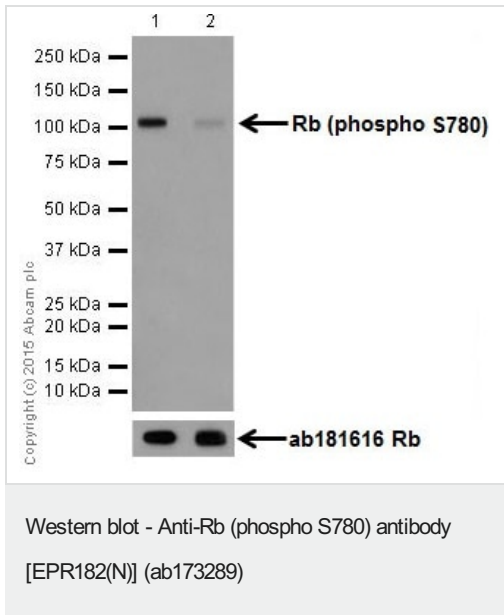
All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 106 kDa

Observed band size: 106 kDa

Exposure time: 1 minute

Blocking and diluting buffer and concentration: 5% NFDM/TBST.



All lanes : Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289) at 1/20000 dilution

Lane 1 : K562 (Human chronic myelogenous leukemia cell line from bone marrow) whole cell lysate

Lane 2 : K562 (Human chronic myelogenous leukemia cell line from bone marrow) whole cell lysate, serum starved for 2 days

Lysates/proteins at 10 µg per lane.

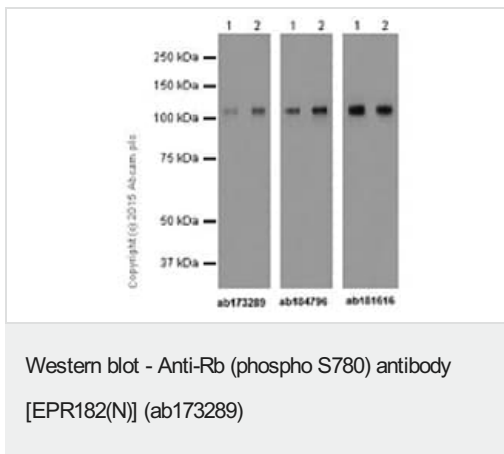
Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/50000 dilution

Predicted band size: 106 kDa

Blocking/Dilution buffer: 5% NFDM/TBST

Exposure time: 1 minute



All lanes : Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289) at 1/5000 dilution

Lane 1 : K562 (Human chronic myelogenous leukemia cell line from bone marrow) whole cell lysate

Lane 2 : Calyculin A treated K562 (Human chronic myelogenous leukemia cell line from bone marrow) 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: 106 kDa

Blocking/Dilution buffer:NFDM/TBST

Ab173289: anti- Rb (phospho S780);

Ab184796: anti- Rb (phospho S807);

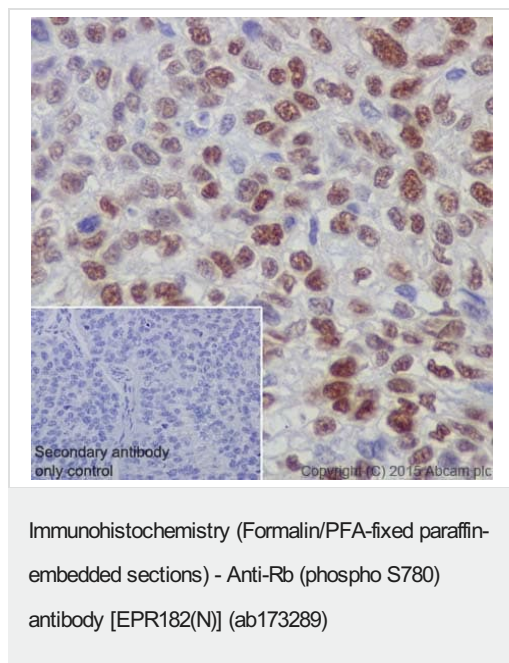
Ab181616: anti-Rb



Dot blot analysis of Rb (phospho S780) peptide (Lane 1),Rb(non-phospho) peptide (Lane 2) with ab173289 at a dilution of 1/1000.[ab97051](#) (Peroxidase conjugated goat anti-rabbit IgG (H+L)) was used as the secondary antibody at a dilution of 1/1000.

Blocking and dilution buffer:5% NFDM/TBST.

Exposure time:3 minutes



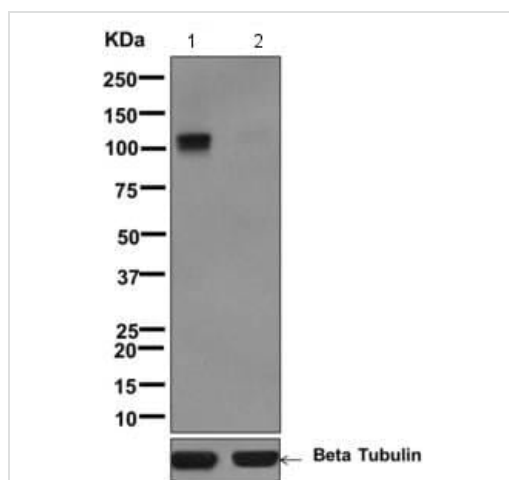
Immunohistochemical analysis of paraffin-embedded Lung squamous cell carcinoma labeling Rb (phospho S780) with ab173289 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

Nucleus staining on tumor cells of lung squamous cell carcinoma.

Counter stained with Hematoxylin.

Secondary antibody only control:Used PBS instead of primary antibody,secondary antibody is [ab97051](#) at 1/500 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289)

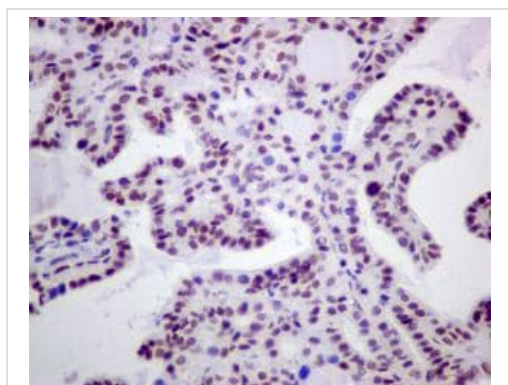
All lanes : Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289) at 1/1000 dilution

Lane 1 : Jurkat cell lysate

Lane 2 : Jurkat cell lysate treated with Lambda Phosphatase

Lysates/proteins at 10 µg per lane.

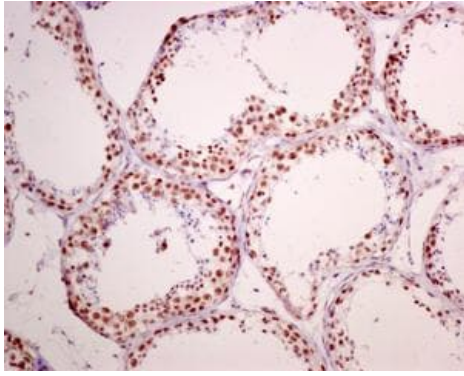
Predicted band size: 106 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289)

Immunohistochemical analysis of paraffin-embedded Human thyroid gland carcinoma tissue labeling Rb with ab173289 at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemical analysis of paraffin-embedded Human testis tissue labeling Rb with ab173289 at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289)

Why choose a recombinant antibody?



Anti-Rb (phospho S780) antibody [EPR182(N)] (ab173289)

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

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