ARG51631
anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes Rb1 / Retinoblastoma protein phospho (Ser795)
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Rb1 / Retinoblastoma protein
Species	Human
Immunogen	Peptide sequence around phosphorylation site of serine 795 (P-S-S(p)-P-L) derived from Human Rb.
Conjugation	Un-conjugated
Alternate Names	Rb; PPP1R130; pRb; pp110; RB; Retinoblastoma-associated protein; p105-Rb; OSRC

Application Instructions

Application table

Application	Dilution
ICC/IF	1:100 - 1:200
IHC-P	1:50 - 1:100
WB	1:500 - 1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

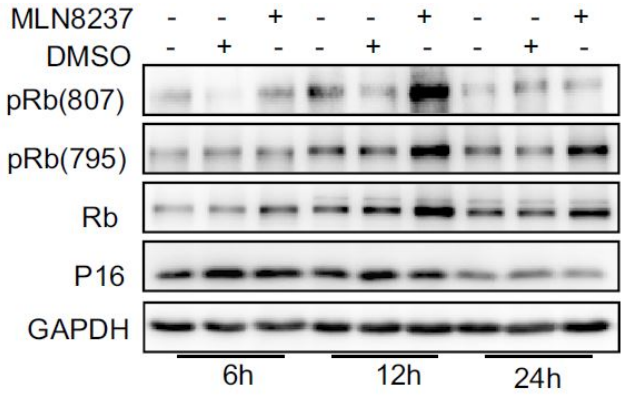
Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic phosphopeptide. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. In addition, non-phospho specific antibodies were removed by chromatogramphy using non-phosphopeptide.
Buffer	PBS (without Mg2+ and Ca2+, pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	RB1
Gene Full Name	retinoblastoma 1
Background	Key regulator of entry into cell division that acts as a tumor suppressor. 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, SUV420H1 and SUV420H2, leading to epigenetic transcriptional repression. Controls histone H4 'Lys-20' trimethylation. Inhibits the intrinsic kinase activity of TAF1. 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.
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, SUV420H1 and SUV420H2, 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. [UniProt]
Highlight	Related products: Retinoblastoma protein antibodies; Retinoblastoma protein Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related news: Senescence Marker Antibody Panel is launched
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Controls and Markers antibody; Gene Regulation antibody
Calculated Mw	106 kDa
PTM	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 calcineruin 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 (By similarity). 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.

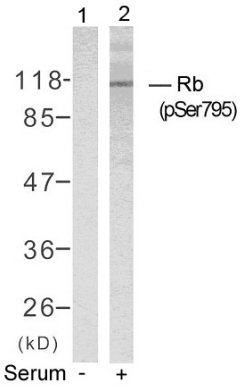
Images



ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody WB image

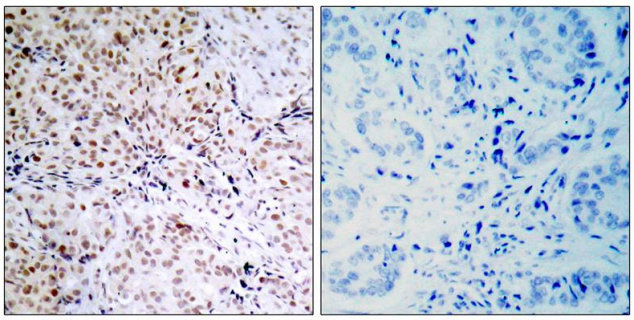
Western blot: IMR32 stained with ARG51103 anti-Rb1 / Retinoblastoma protein antibody , ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody and ARG51632 anti-Rb1 / Retinoblastoma protein phospho (Ser807) antibody .

From Yang Y et al. Cancer Cell Int (2020), doi: 10.1186/s12935-019-1072-y, Fig. 2A.



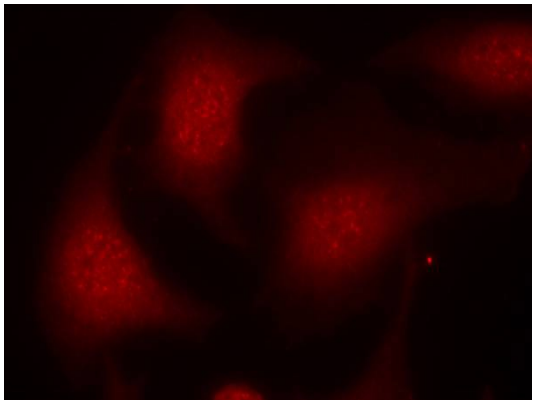
ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody WB image

Western blot: Extracts from K562 cells untreated(lane 1) or treated with serum(lane 2) stained with ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody.



ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human breast carcinoma tissue stained with ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody (left) or the same antibody preincubated with blocking peptide (right).



ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody ICC/IF image

Immunofluorescence: methanol-fixed HeLa cells stained with ARG51631 anti-Rb1 / Retinoblastoma protein phospho (Ser795) antibody.