

## Product datasheet

# Anti-RIZ1 antibody [33AT1045] ab3791

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### Overview

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<b>Product name</b>	Anti-RIZ1 antibody [33AT1045]
<b>Description</b>	Mouse monoclonal [33AT1045] to RIZ1
<b>Host species</b>	Mouse
<b>Specificity</b>	This antibody is specific for RIZ 1. It does not recognize the beta isoform (RIZ 2).
<b>Tested applications</b>	<b>Suitable for:</b> WB, ELISA
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human
<b>Immunogen</b>	Fusion protein, corresponding to amino acids 1-347 of Human RIZ1
<b>General notes</b>	

Similar to acetylation and phosphorylation, histone methylation at the N-terminal tail has emerged as an important role in regulating chromatin dynamics and gene activity. Histone methylation occurs on arginine and lysine residues and is catalyzed by two families of proteins, the protein arginine methyltransferase family and the SET-domain-containing methyltransferase family. Five members have been identified in the arginine methyltransferase family. About 27 are grouped into the SET-domain family, and another 17 make up the PR domain family that is related to the SET domain family. The retinoblastoma protein-interacting zinc finger gene RIZ 1 is a tumor suppressor gene and a FOUNDING member of the PR domain family. RIZ 1 inactivation is commonly found in many types of human cancers and occurs through loss of mRNA expression, frame shift mutation, chromosomal deletion, and missense mutation. RIZ 1 is also a tumor susceptibility gene in mice. The loss of RIZ 1 mRNA in human cancers was shown to associate with DNA methylation of its promoter CpG island. Methylation of the RIZ 1 promoter strongly correlated with lost or decreased RIZ 1 mRNA expression in breast, liver, colon, and lung cancer cell lines as well as in liver cancer tissues.

### Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	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.
<b>Storage buffer</b>	Preservative: 0.1% Sodium azide Constituent: PBS
<b>Purity</b>	Protein G purified
<b>Purification notes</b>	This antibody is purified through a protein G column and eluted out with both high and low pH

buffers. It is neutralized immediately after elution, followed by dialysis against PBS.

## Primary antibody notes

Similar to acetylation and phosphorylation, histone methylation at the N-terminal tail has emerged as an important role in regulating chromatin dynamics and gene activity. Histone methylation occurs on arginine and lysine residues and is catalyzed by two families of proteins, the protein arginine methyltransferase family and the SET-domain-containing methyltransferase family. Five members have been identified in the arginine methyltransferase family. About 27 are grouped into the SET-domain family, and another 17 make up the PR domain family that is related to the SET domain family. The retinoblastoma protein-interacting zinc finger gene RIZ 1 is a tumor suppressor gene and a FOUNDRING member of the PR domain family. RIZ 1 inactivation is commonly found in many types of human cancers and occurs through loss of mRNA expression, frame shift mutation, chromosomal deletion, and missense mutation. RIZ 1 is also a tumor susceptibility gene in mice. The loss of RIZ 1 mRNA in human cancers was shown to associate with DNA methylation of its promoter CpG island. Methylation of the RIZ 1 promoter strongly correlated with lost or decreased RIZ 1 mRNA expression in breast, liver, colon, and lung cancer cell lines as well as in liver cancer tissues.

<b>Clonality</b>	Monoclonal
<b>Clone number</b>	33AT1045
<b>Isotype</b>	IgG1

## Applications

Our [Abpromise guarantee](#) covers the use of **ab3791** in the following tested applications.

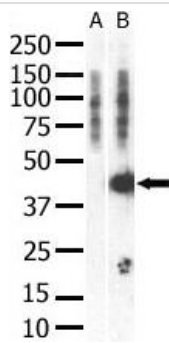
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★ ★ ★ ★ ★	1/100 - 1/500. Predicted molecular weight: 189 kDa.
ELISA		1/1000.

## Target

<b>Function</b>	S-adenosyl-L-methionine-dependent histone methyltransferase that specifically methylates 'Lys-9' of histone H3. May function as a DNA-binding transcription factor. Binds to the macrophage-specific TPA-responsive element (MTE) of the HMOX1 (heme oxygenase 1) gene and may act as a transcriptional activator of this gene.
<b>Tissue specificity</b>	Highly expressed in retinoblastoma cell lines and in brain tumors. Also expressed in a number of other cell lines and in brain, heart, skeletal muscle, liver and spleen. Isoform 1 is expressed in testis at much higher level than isoform 3.
<b>Sequence similarities</b>	Contains 8 C2H2-type zinc fingers. Contains 1 SET domain.
<b>Cellular localization</b>	Nucleus.

## Images



Western blot - Anti-RIZ1 antibody [33AT1045]  
(ab3791)

Western blot analysis of ab3791 in lysate from transformed cells. Lane A: mock plasmid, Lane B: RIZ1[1-347]-encoding plasmid. RIZ1[1-347] (arrow) was detected using ab3791. Secondary HRP-anti-mouse was used for signal visualization with chemiluminescence. Western blot analysis of ab3791 in lysate from transformed cells. Lane A: mock plasmid, Lane B: RIZ1[1-347]-encoding plasmid. RIZ1[1-347] (arrow) was detected using ab3791. Secondary HRP-anti-mouse was used for signal visualization with chemiluminescence.

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