PRODUCT INFORMATION

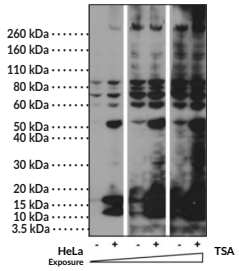
Acetyl Lysine Monoclonal Antibody (Clone RM101)

Item No. 32125

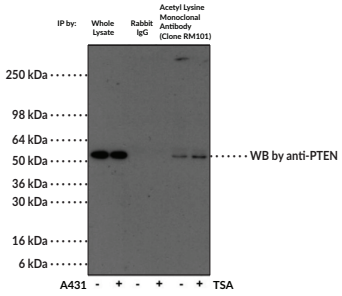
Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	ACE
Immunogen:	Acetyl lysine-BSA
Cross Reactivity:	(+) Lysine-acetylated proteins; (-) Non-acetylated lysine residues, lysine residues with other modifications
Species Reactivity:	Species Independent
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM101
Host:	Rabbit
Isotype:	IgG
Applications:	Chromatin IP (ChIP), Immunocytochemistry (ICC), Immunohistochemistry (IHC), Immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution is 1:100-1:500 for ChIP, ICC, IHC, and IP and 1:500-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

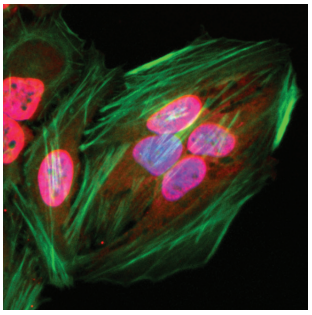
Images



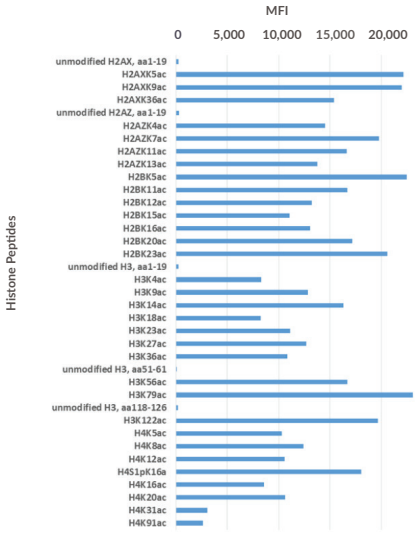
WB of HeLa cells non-treated or treated with trichostatin A (TSA) using Acetyl Lysine Monoclonal Antibody (Clone RM101) at a 1:2,000 dilution.



IP of A431 cell lysates, using Acetyl Lysine Monoclonal Antibody (Clone RM101) at 1:500 dilution, was probed with anti-PTEN mouse monoclonal antibody.



Immunocytochemical staining of HeLa cells using Acetyl Lysine Monoclonal Antibody (Clone RM101) (red). Actin filaments were labeled with fluorescein phalloidin (green) and nuclei were stained with DAPI (blue).



Acetyl Lysine Monoclonal Antibody (Clone RM101) on Luminex of Acetylated or Unmodified Histone Peptides

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Lysine acetylation is an evolutionarily conserved post-translational modification that is found in prokaryotes and eukaryotes at histone and non-histone protein sites.[1] Transfer of an acetyl group from acetyl-coenzyme A (acetyl-CoA) to the amino side chain of lysine is catalyzed by lysine acetyltransferases (KATs), including 13 canonical KATs from the GCN5, p300, and MYST families. Acetyl lysine removal is catalyzed by two major groups of lysine deacetylases (KDACs), the zinc-dependent histone deacetylases (HDACs) and the NAD^+-dependent sirtuin deacetylases. Histone acetylation is associated with active gene transcription, and dysregulation of histone acetylation is associated with various diseases including cancer, Huntington's and Alzheimer's diseases, and amyotrophic lateral sclerosis (ALS).[2-4] Non-histone protein acetylation is linked to various cellular processes including autophagy, DNA replication, lipid storage, mitochondrial fission and fusion, and protein synthesis, among others.[1] Cayman's Acetyl Lysine Monoclonal Antibody (Clone RM101) can be used for immunocytochemistry (ICC), immunohistochemistry (IHC), immunoprecipitation (IP), chromatin immunoprecipitation (ChIP), and Western blot (WB) applications.

References

1. Narita, T., Weinert, B.T., and Choudhary, C. Functions and mechanisms of non-histone protein acetylation. *Nat. Rev. Mol. Cell Biol.* **20(3)**, 156-174 (2019).
2. Audia, J.E. and Campbell, R.M. Histone modifications and cancer. *Cold Spring Harb. Perspect.* **8(4)**, a019521 (2016).
3. Bonnaud, E.M., Suberbielle, E., and Malnou, C.E. Histone acetylation in neuronal (dys)function. *Biomol. Concepts* **7(2)**, 103-116 (2016).
4. Bennett, S.A., Tanaz, R., Cobos, S.N., *et al.* Epigenetics in amyotrophic lateral sclerosis: A role for histone post-translational modifications in neurodegenerative disease. *Transl. Res.* **204**, 19-30 (2019).

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