10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-NAT10 Rabbit Monoclonal Antibody

Catalog # ABO16055

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	Q9H0A0
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human, Mouse, Monkey
Clonality	Monoclonal
Format	Liquid
Description	Anti-NAT10 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Monkey, Mouse, Rat.

Additional Information

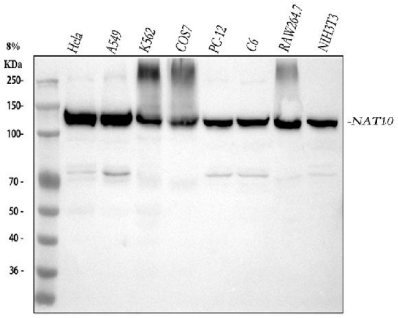
Gene ID	55226
Other Names	RNA cytidine acetyltransferase {ECO:0000255|HAMAP-Rule:MF_03211, ECO:0000303|PubMed:25411247}, 2.3.1.- {ECO:0000255|HAMAP-Rule:MF_03211, ECO:0000269|PubMed:25411247, ECO:0000269|PubMed:30449621}, 18S rRNA cytosine acetyltransferase {ECO:0000255|HAMAP-Rule:MF_03211, ECO:0000303|PubMed:25653167}, N-acetyltransferase 10 {ECO:0000255|HAMAP-Rule:MF_03211}, N-acetyltransferase-like protein, hALP, NAT10 {ECO:0000255|HAMAP-Rule:MF_03211}
Calculated MW	115730
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50 FC 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: 26N34
Immunogen	A synthesized peptide derived from human NAT10
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	NAT10 {ECO:0000255|HAMAP-Rule:MF_03211}
Function	RNA cytidine acetyltransferase that catalyzes the formation of N(4)-acetylcytidine (ac4C) modification on mRNAs, 18S rRNA and tRNAs (PubMed:25411247, PubMed:25653167, PubMed:30449621, PubMed:35679869). Catalyzes ac4C modification of a broad range of mRNAs, enhancing mRNA stability and translation (PubMed:30449621, PubMed:35679869). mRNA ac4C modification is frequently present within wobble cytidine sites and promotes translation efficiency (PubMed:30449621). Mediates the formation of ac4C at position 1842 in 18S rRNA (PubMed:25411247). May also catalyze the formation of ac4C at position 1337 in 18S rRNA (By similarity). Required for early nucleolar cleavages of precursor rRNA at sites A0, A1 and A2 during 18S rRNA synthesis (PubMed:25411247, PubMed:25653167). Catalyzes the formation of ac4C in serine and leucine tRNAs (By similarity). Requires the tRNA-binding adapter protein THUMPD1 for full tRNA acetyltransferase activity but not for 18S rRNA acetylation (PubMed:25653167). In addition to RNA acetyltransferase activity, also able to acetylate lysine residues of proteins, such as histones, microtubules, p53/TP53 and MDM2, in vitro (PubMed:14592445, PubMed:17631499, PubMed:19303003, PubMed:26882543, PubMed:27993683, PubMed:30165671). The relevance of the protein lysine acetyltransferase activity is however unsure in vivo (PubMed:30449621). Activates telomerase activity by stimulating the transcription of TERT, and may also regulate telomerase function by affecting the balance of telomerase subunit assembly, disassembly, and localization (PubMed:14592445, PubMed:18082603). Involved in the regulation of centrosome duplication by acetylating CENATAC during mitosis, promoting SASS6 proteasome degradation (PubMed:31722219). Part of the small subunit (SSU) processome, first precursor of the small eukaryotic ribosomal subunit. During the assembly of the SSU processome in the nucleolus, many ribosome biogenesis factors, an RNA chaperone and ribosomal proteins associate with the nascent pre-rRNA and work in concert to generate RNA folding, modifications, rearrangements and cleavage as well as targeted degradation of pre-ribosomal RNA by the RNA exosome (PubMed:34516797).
Cellular Location	Nucleus, nucleolus {ECO:0000255|HAMAP- Rule:MF_03211, ECO:0000269|PubMed:12429849, ECO:0000269|PubMed:14592445, ECO:0000269|PubMed:19303003, ECO:0000269|PubMed:24786082, ECO:0000269|PubMed:25653167, ECO:0000269|PubMed:30165671, ECO:0000269|PubMed:34516797}. Midbody {ECO:0000255|HAMAP-Rule:MF_03211, ECO:0000269|PubMed:19303003} Note=Nucleolar in interphase and redistributes to the perichromosomal layer and to the midbody during telophase

Images

Figure 1. Western blot analysis of NAT10 using anti-NAT10 antibody (M06226).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human A549 whole cell lysates,



Lane 3: human K562 whole cell lysates,
Lane 4: monkey COS-7 whole cell lysates,
Lane 5: rat PC-12 whole cell lysates,
Lane 6: rat C6 whole cell lysates,
Lane 7: mouse RAW264.7 whole cell lysates,
Lane 8: mouse NIH/3T3 whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NAT10 antigen affinity purified monoclonal antibody (Catalog # M06226) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for NAT10 at approximately 116 kDa. The expected band size for NAT10 is at 116 kDa.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.