abcam

ab234076

Anti-ARD1A antibody [3G3B9]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human NAA10 aa 100-250. The exact immunogen used to generate this antibody is proprietary information. Database link P41227
Clone number	3G3B9
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400
Notes	-

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	1/200 - 1/400
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human
Dilution info	1/100 - 1/500
Notes	-

Species	Mouse
Dilution info	1/100 - 1/500
Notes	-

Species	African green monkey
Dilution info	1/100 - 1/500
Notes	-

Species	Human
Dilution info	1/100 - 1/500
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	Mouse, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information NAA10

Function

Catalytic subunit of N-terminal acetyltransferase complexes which display alpha (N-terminal) acetyltransferase activity (PubMed:15496142, PubMed:19420222, PubMed:19826488, PubMed:20145209, PubMed:20154145, PubMed:25489052, PubMed:27708256, PubMed:29754825, PubMed:32042062). Acetylates amino termini that are devoid of initiator methionine (PubMed:19420222). The alpha (N-terminal) acetyltransferase activity may be important for vascular, hematopoietic and neuronal growth and development. Without NAA15, displays epsilon (internal) acetyltransferase activity towards HIF1A, thereby promoting its degradation (PubMed:12464182). Represses MYLK kinase activity by acetylation, and thus represses tumor cell migration (PubMed:19826488). Acetylates, and stabilizes TSC2, thereby repressing mTOR activity and suppressing cancer development (PubMed:20145209). Acetylates HSPA1A and HSPA1B at 'Lys-77' which enhances its chaperone activity and leads to preferential binding to co-chaperone HOPX (PubMed:27708256). Acetylates HIST1H4A (PubMed:29754825). Acts as a negative regulator of sister chromatid cohesion during mitosis (PubMed:27422821).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ARD1A also known as NAA10 is a catalytic subunit of the N-terminal acetyltransferase complex. This protein has a mass of approximately 25 kDa. It acetylates the alpha-amino group of nascent polypeptides which affects stability localization and function of proteins. ARD1A is expressed in various tissues including heart skeletal muscle and liver. Its enzymatic activity requires a partnership with NAA15 another subunit which together form the N-terminal acetyltransferase A (NatA) complex.
Biological function summary	Acetylation by ARD1A modulates protein interactions and function. The NatA complex where ARD1A acts influences processes including cell cycle regulation and apoptosis. By modifying substrates critical for cell fate ARD1A plays a role in maintaining cellular balance. This complex helps in modifying proteins like actin which regulates the cytoskeleton a cellular structure essential for movement and division.
Pathways	Protein acetylation by ARD1A fits into the cellular signaling and protein degradation pathways. The complex alters substrates involved in proteasome-mediated degradation relating it to ubiquitin-proteasome pathways. Other interactions include the modulation of gene expression pathways impacting proteins like histones which are core to chromatin structure and gene regulation.
Associated diseases and disorders	Improper ARD1A function can relate to cancer and neurodegenerative diseases. Alterations in ARD1A activity have connected it to tumorigenesis due to its role in cell growth regulation. Additionally decreased N-terminal acetylation by ARD1A has shown a link to neurodegeneration. This happens as it affects proteins such as tau which is significant in Alzheimer's disease when improperly modified.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

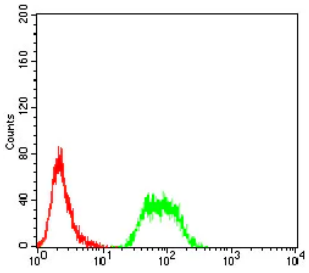
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

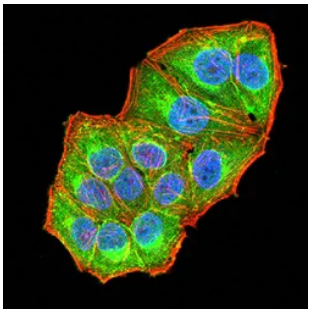
5 product images



Flow Cytometry - Anti-ARD1A antibody [3G3B9] (ab234076)

ARD1A Flow Cytometry staining using mouse Anti-ARD1A antibody

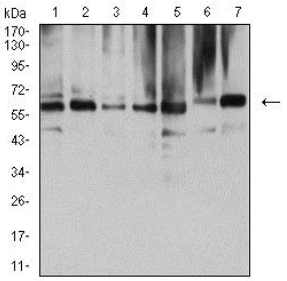
Flow Cytometry analysis of SMMC-7721 (human hepatocarcinoma cell line) cells, labeling ARD1A with ab234076 at a 1/200 dilution (green) compared to a negative control (red).



Immunocytochemistry/ Immunofluorescence - Anti-ARD1A antibody [3G3B9] (ab234076)

ARD1A Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ARD1A antibody

HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained for ARD1A (green) using ab234076 at 1/200 dilution in ICC/IF.
Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with AlexaFluor®555-Phalloidin.



Western blot - Anti-ARD1A antibody [3G3B9] (ab234076)

All lanes:
Western blot - Anti-ARD1A antibody [3G3B9] (ab234076) at 1/100 dilution

Lane 1:
COS-7 (African green monkey kidney fibroblast-like cell line) cell lysate

Lane 2:
HEK-293 (human epithelial cell line from embryonic kidney) cell lysate

Lane 3:
HL-60 (human promyelocytic leukemia cell line) cell lysate

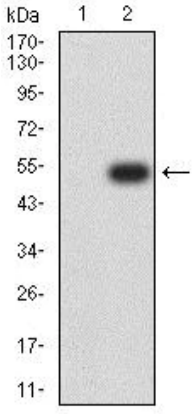
Lane 4:
MCF7 (human breast adenocarcinoma cell line) cell lysate

Lane 5:
HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate

Lane 6:
NIH-3T3 (mouse embryo fibroblast cell line) cell lysate

Lane 7:
C2C12 (mouse myoblast cell line) cell lysate

Predicted band size: 26 kDa



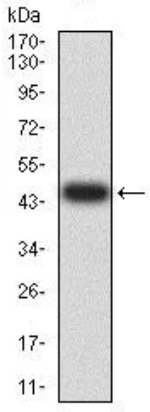
Western blot - Anti-ARD1A antibody [3G3B9] (ab234076)

All lanes:
Western blot - Anti-ARD1A antibody [3G3B9] (ab234076) at 1/100 dilution

Lane 1:
HEK-293 (human epithelial cell line from embryonic kidney) cell lysate

Lane 2:
Human ARD1A (amino acids 111-235)-hIgGFc transfected HEH-293 cell lysate

Predicted band size: 26 kDa



Western blot - Anti-ARD1A antibody [3G3B9] (ab234076)

Expected recombinant MW is 47.2 kDa
All lanes:
Western blot - Anti-ARD1A antibody [3G3B9] (ab234076) at 1/100 dilution

All lanes:
Recombinant human ARD1A (amino acids 111-235) protein

Predicted band size: 26 kDa

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