abcam

ab129169

Anti-HIRA/HIR antibody [EPR7416]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR7416
Purification technique	Affinity purification Protein A
Dissociation constant	1.35 x 10^{-10} M
Concentration	1.23 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	*We recommend to use 1%SDS Hot lysis prepare method. For Lysate preparation protocol, please refer to the protocol book in the protocol section and/or here.*

Not recommended

Species	Mouse
Dilution info	-
Notes	*We recommend to use 1%SDS Hot lysis prepare method. For Lysate preparation protocol, please refer to the protocol book in the protocol section and/or here.*

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information HIRA

Function	Cooperates with ASF1A to promote replication-independent chromatin assembly. Required for the periodic repression of histone gene transcription during the cell cycle. Required for the formation of senescence-associated heterochromatin foci (SAHF) and efficient senescence-associated cell cycle exit.

Storage

Shipped at conditions	Conditional Ambient
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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	HIRA also known as HIR or HIR/HIRA is a histone chaperone protein that plays an essential role in chromatin remodeling and nucleosome assembly. This protein has a mass of approximately 121 kDa. It is expressed in various tissues with notable presence in the liver heart and skeletal muscle. The HIRA protein interacts with other proteins to regulate the deposition of histone H3.3 which is important for processes like DNA replication and repair.
Biological function summary	HIRA participates in the formation of a complex known as the HIRA-ASF1A-CABIN1 protein complex. This complex operates in chromatin assembly and modulates the incorporation of histone variant H3.3 affecting gene silencing and transcription regulation. Interacting with histone proteins HIRA serves an important function in genome stability and epigenetic mark establishment.
Pathways	HIRA influences the histone replacement pathway significantly impacting gene expression and chromatin organization. HIRA works closely with ASF1A and CABIN1 proteins within this pathway. Additionally in the senescence-associated secretory phenotype pathway HIRA contributes to cellular aging processes by regulating transcriptional outcomes. The modulation of these pathways by HIRA exemplifies its key role in maintaining cellular functions.
Associated diseases and disorders	Defects in HIRA associate with hypertrophic cardiomyopathy and some cancer types such as breast cancer. HIRA alterations can disrupt chromatin dynamics potentially linking it with poor prognostic factors in these diseases. In particular the HIRA gene can interact with other genes involved in cardiomyopathies like MYH7 affecting heart muscle function. Through its role in chromatin remodeling HIRA connects to various pathologies where gene regulation and DNA damage responses are compromised.

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

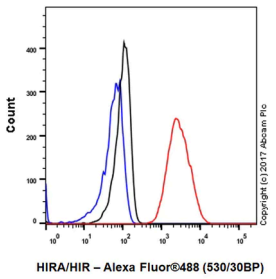
We do not recommend this combination. It is not covered by our product promise.

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.

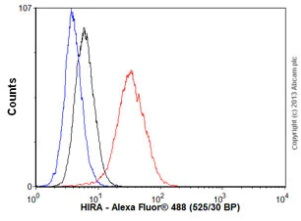
7 product images



Flow Cytometry (Intracellular) - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

HIRA/HIR Flow Cytometry (Intracellular) staining using rabbit Anti-HIRA/HIR antibody

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling HIRA/HIR with purified ab129169 at 1/100 dilution (10µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).

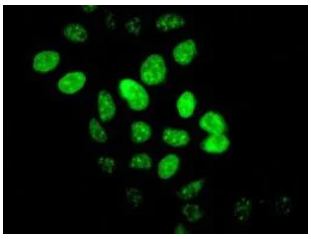


Flow Cytometry (Intracellular) - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

HIRA/HIR Flow Cytometry (Intracellular) staining using rabbit Anti-HIRA/HIR antibody

Overlay histogram showing HEK293 cells stained with unpurified ab129169 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab129169, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon

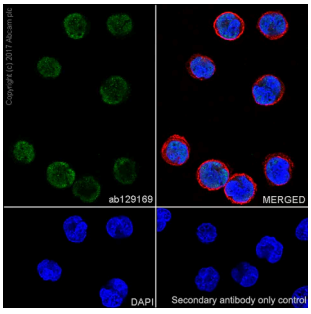
ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in HEK293 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

HIRA/HIR Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HIRA/HIR antibody

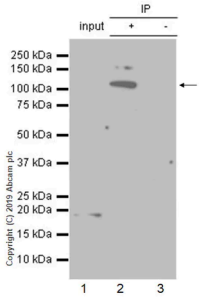
ab129169 (unpurified) at 1/50 dilution, staining HIRA/HIR in HeLa cells by Immunofluorescence.



Immunocytochemistry/ Immunofluorescence - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

HIRA/HIR Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HIRA/HIR antibody

Immunocytochemistry/ Immunofluorescence analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling HIRA/HIR with purified ab129169 at 1/200 dilution (5 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

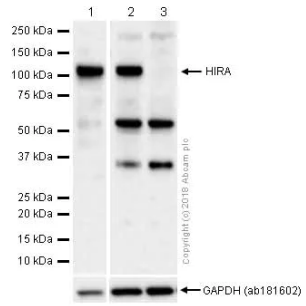


Immunoprecipitation - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

ab129169 (Purified) at 1/50 dilution (2ug) immunoprecipitating HIRA/HIR in HEK-293 whole cell lysate.
Lane 1 (input): HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate 10ug
Lane 2 (+): ab129169 & HEK-293 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab129169 in HEK-293 whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
This antibody works in the lysates prepared with 1%SDS Hot lysis method in WB. No target band in input lane is due to the lysates prepared with RIPA method.

All lanes:
Immunoprecipitation - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

Predicted band size: 112 kDa



Western blot - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

HIRA/HIR Western blot staining using rabbit Anti-HIRA/HIR antibody

We recommend to use 1%SDS Hot lysis prepare method.
We are unsure how to define the extra bands.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-HIRA/HIR antibody [EPR7416] (ab129169) at 1/1000 dilution

Lane 1:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysates prepared in 1%SDS Hot lysis method at 20 µg

Lane 2:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates prepared in 1%SDS Hot lysis method at 20 µg

Lane 3:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates prepared in RIPA lysis method at 20 µg

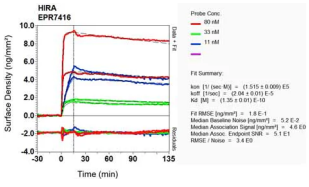
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 112 kDa

Observed band size: 112 kDa

Exposure time: 3min



OI-RD Scanning - Anti-HIRA/HIR antibody [EPR7416] (ab129169)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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