abcam

ab303552

Anti-UHRF1 antibody [EPR25061-269]

Recombinant | RabMAb | 20ul selling size

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	EPR25061-269
Purification technique	Affinity purification Protein A
Concentration	0.533 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Uhrf1

Function

E3 ubiquitin-protein ligase that acts as a key epigenetic regulator by bridging DNA methylation and chromatin modification (PubMed:12058012, PubMed:12084726, PubMed:14993289, PubMed:17673620, PubMed:26065575, PubMed:30392929). Plays a key role in DNA methylation inheritance by promoting recruitment of DNMT1 to hemimethylated DNA and ensure faithful propagation of the DNA methylation patterns through DNA replication (PubMed:17673620, PubMed:21268065, PubMed:26065575). Acts both as a histone reader and writer: specifically recognizes and binds (1) hemimethylated DNA at replication forks and (2) histone H3 trimethylated at 'Lys-9' and unmethylated at 'Arg-2' (H3K9me3 and H3R2me0, respectively), thereby activating its E3 ubiquitin-protein ligase activity (PubMed:15361834, PubMed:17994007, PubMed:18772888, PubMed:18772891, PubMed:21489993, PubMed:26065575). UHRF1 then mediates histone H3 'Lys-18' monoubiquitination (H3K18ub), a docking site for DNMT1, leading to DNMT1 recruitment and replication-coupled DNA methylation maintenance (PubMed:26065575, PubMed:29053958, PubMed:30392929). Also mediates histone H3 'Lys-14' and 'Lys-23' ubiquitination (H3K14ub and H3K23ub) at lower level (PubMed:29053958). Histone ubiquitin ligase activity also stimulates the methyltransferase activity of SUV39H1 and/or SUV39H2, promoting accumulation of H3K9me3 histone mark to reinformce heterochromatin state (By similarity). Enriched in pericentric heterochromatin where it recruits different chromatin modifiers required for this chromatin replication (By similarity). Also localizes to

euchromatic regions where it negatively regulates transcription possibly by impacting DNA methylation and histone modifications (By similarity). Plays a role in DNA repair by cooperating with UHRF2 to ensure recruitment of FANCD2 to interstrand cross-links (ICLs) leading to FANCD2 activation (By similarity). Also ubiquitinates non-histone proteins, such as histone H3, KIF11 and PML (By similarity). Acts as a critical player of proper spindle architecture by catalyzing the 'Lys-63'-linked ubiquitination of KIF11, thereby controlling KIF11 localization on the spindle (By similarity).

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	UHRF1 also known as ICBP90 or Np95 is a nuclear protein playing key roles in epigenetic regulation. It weighs approximately 90 kDa. UHRF1 is expressed in

	various tissues most highly in proliferating cells. Functionally UHRF1 recognizes hemimethylated DNA and recruits DNA methyltransferase 1 (DNMT1) to maintain DNA methylation after replication. This ability to interact with both DNA and chromatin makes UHRF1 central to chromatin modification processes.
Biological function summary	UHRF1 engages in preserving the DNA methylation landscape ensuring proper gene expression patterns. It is part of a multi-protein complex and processes both histone modification and DNA methylation. Its presence is critical for gene silencing through the recruitment of DNMT1 and histone deacetylases. UHRF1 therefore influences regulatory regions of genes important for cell cycle progression and development.
Pathways	UHRF1 integrates into methylation-dependent gene silencing and cell cycle regulation. It actively participates in DNA damage repair pathways by modulating the p53 pathway aiding cell survival post-DNA damage. UHRF1 closely interacts with epigenetic regulators such as DNMT1 and histone deacetylases bridging methylation and chromatin remodeling to ensure proper cell cycle and transcriptional control.
Associated diseases and disorders	UHRF1's dysregulation links to cancers including breast and lung cancer due to its role in maintaining aberrant methylation. Abnormal UHRF1 expression leads to improper silencing of tumor suppressor genes. UHRF1's interaction with DNMT1 and modulation of pathways involving p53 are important for cancer cell proliferation making it a potential target for cancer therapies.

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

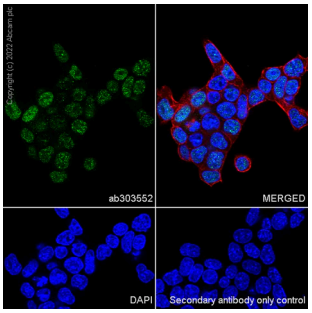
We do not recommend this combination. It is not covered by our product promise.

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.

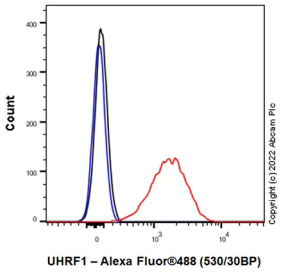
Full details and terms and conditions can be found here:

6 product images



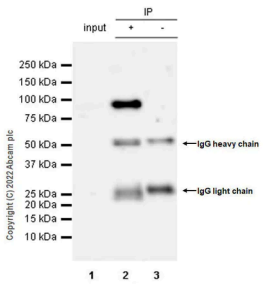
Immunocytochemistry/ Immunofluorescence - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling UHRF1 with ab303552 at 1/500 (1.066 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing nuclear staining in F9 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling UHRF1 with ab303552 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



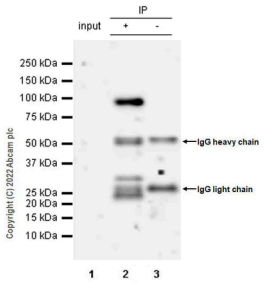
Immunoprecipitation - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

UHRF1 was immunoprecipitated from 0.35 mg mouse thymus tissue lysate 10 ug with ab303552 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab303552 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution. Lane 1: Mouse thymus tissue lysate 10 ug. Lane 2: ab303552 IP in mouse thymus tissue lysate. Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab303552 in mouse thymus tissue lysate. Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 111 seconds.
All lanes:
Immunoprecipitation - Anti-UHRF1 antibody [EPR25061-269] (ab303552) at 1/1000 dilution

All lanes:
Mouse thymus tissue lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution



Immunoprecipitation - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

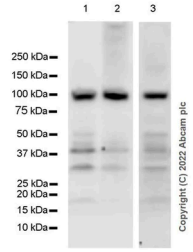
UHRF1 was immunoprecipitated from 0.35 mg F9 (mouse embryonal carcinoma epithelial cell), whole cell lysate 10 ug with ab303552 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab303552 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: F9 whole cell lysate 10 ug Lane 2: ab303552 IP in F9 whole cell lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab303552 in F9 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 111 seconds.
All lanes:
Immunoprecipitation - Anti-UHRF1 antibody [EPR25061-269] (ab303552) at 1/1000 dilution

All lanes:
F9 (mouse embryonal carcinoma epithelial cell), whole cell lysate at 10 µg

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 111s



Western blot - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

This data was developed using ab303552, the same antibody clone in a different buffer formulation. Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: Lane 1-2: 37 seconds Lane 3: 92 seconds The identity of the bands between 30 kDa and 50 kDa is unknown.
All lanes:
Western blot - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

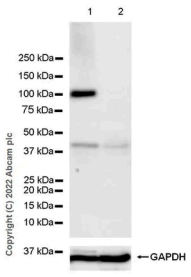
Lane 1:
F9 (mouse embryonal carcinoma epithelial cell), whole cell lysate at 40 µg

Lane 2:
ES-D3 (mouse embryonic multipotent stem Cell), whole cell lysate at 40 µg

Lane 3:
C2C12 (mouse myoblasts myoblast), whole cell lysate at 40 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051)



Western blot - Anti-UHRF1 antibody [EPR25061-269] (ab303552)

Blocking and dilution buffer and concentration: 5% NFDM/TBST. Low expression: brain (PMID: 9880673) The identity of the lower MW band at approximately 37 kDa is unknown.
All lanes:
Western blot - Anti-UHRF1 antibody [EPR25061-269] (ab303552) at 1/1000 dilution

Lane 1:
Mouse thymus tissue lysate at 40 µg

Lane 2:
Mouse brain tissue lysate at 40 µg

Secondary

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

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