abcam

ab247838

Anti-HUS1 antibody [EPR5132] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR5132
Purification technique	Affinity purification Protein A
Concentration	1.023 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information HUS1

Function

Component of the 9-1-1 cell-cycle checkpoint response complex that plays a major role in DNA repair (PubMed:21659603). The 9-1-1 complex is recruited to DNA lesion upon damage by the RAD17-replication factor C (RFC) clamp loader complex (PubMed:21659603). Acts then as a sliding clamp platform on DNA for several proteins involved in long-patch base excision repair (LP-BER) (PubMed:21659603). The 9-1-1 complex stimulates DNA polymerase beta (POLB) activity by increasing its affinity for the 3'-OH end of the primer-template and stabilizes POLB to those sites where LP-BER proceeds; endonuclease FEN1 cleavage activity on substrates with double, nick, or gap flaps of distinct sequences and lengths; and DNA ligase I (LIG1) on long-patch base excision repair substrates (PubMed:21659603). The 9-1-1 complex is necessary for the recruitment of RHNO1 to sites of double-stranded breaks (DSB) occurring during the S phase (PubMed:21659603).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247838 is the carrier-free version of ab109371.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	HUS1 also known as checkpoint protein HUS1 homolog is a protein that plays an important role in DNA damage response. It has a molecular mass of about 34 kDa and is expressed in various tissues with notable expression in testis and thymus. HUS1 is part of the Rad9-Rad1-Hus1 (9-1-1) complex which acts as a sensor for DNA damage and activates downstream signaling pathways for DNA repair mechanisms.
Biological function summary	HUS1 is important in maintaining genomic stability and integrity. It forms a complex with RAD9 and RAD1 creating the 9-1-1 complex that localizes to sites of DNA damage. This complex enables the recruitment and activation of several key DNA repair proteins facilitating the repair process. HUS1 plays a role in the activation of cell cycle checkpoints essential for preventing the propagation of damaged DNA during cell division.

Pathways	HUS1 is significantly involved in the DNA damage response and cell cycle regulation pathways. The protein connects into the ATR signaling pathway where it helps activate ATR kinase in response to DNA damage. Related proteins in these pathways include ATM and CHK1 which also serve in coordinating the cellular response to DNA injuries.
Associated diseases and disorders	HUS1 is associated with cancer pathogenesis particularly in regard to its role in DNA repair. Mutations or dysregulation in HUS1 can lead to genomic instability a hallmark of cancerous cells. In addition to cancer HUS1 plays a role in hereditary diseases such as Ataxia-telangiectasia due to its connection with the ATM protein which is mutated in this disorder. Understanding HUS1's function and interactions might provide insight into therapeutic approaches for these conditions.

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

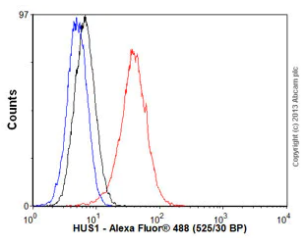
We do not recommend this combination. It is not covered by our product promise.

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.

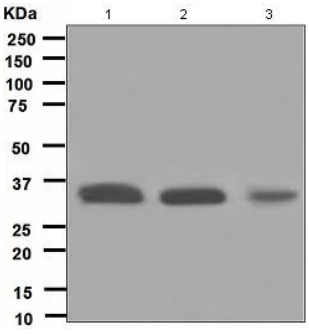
2 product images



Flow Cytometry (Intracellular) - Anti-HUS1 antibody [EPR5132] - BSA and Azide free (ab247838)

HUS1 Flow Cytometry (Intracellular) staining using rabbit Anti-HUS1 antibody

This data was developed using ab109371, the same antibody clone in a different buffer formulation.
Overlay histogram showing HeLa cells stained with ab109371 (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 (ab109371, 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 HeLa cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-HUS1 antibody [EPR5132] - BSA and Azide free (ab247838)

HUS1 Western blot staining using rabbit Anti-HUS1 antibody

This data was developed using ab109371, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-HUS1 antibody [EPR5132] - BSA and Azide free (ab247838) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
K562 cell lysate at 10 µg

Lane 3:
A431 cell lysate at 10 µg

Predicted band size: 32 kDa

Observed band size: 34 kDa

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