abcam

ab248557

Anti-Timeless antibody [EPR5274(2)] - 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	EPR5274(2)
Purification technique	Affinity purification

Reactivity data

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information TIMELESS

Function	Plays an important role in the control of DNA replication, maintenance of replication fork stability, maintenance of genome stability throughout normal DNA replication, DNA repair and in the regulation of the circadian clock (PubMed:17141802, PubMed:17296725, PubMed:23359676, PubMed:23418588, PubMed:26344098, PubMed:31138685, PubMed:32705708, PubMed:35585232, PubMed:9856465). Required to stabilize replication forks during DNA replication by forming a complex with TIPIN: this complex regulates DNA replication processes under both normal and stress conditions, stabilizes replication forks and influences both CHEK1 phosphorylation and the intra-S phase checkpoint in response to genotoxic stress (PubMed:17141802, PubMed:17296725, PubMed:23359676, PubMed:35585232). During DNA replication, inhibits the CMG complex ATPase activity and activates DNA polymerases catalytic activities, coupling DNA unwinding and DNA synthesis (PubMed:23359676). TIMELESS promotes TIPIN nuclear localization (PubMed:17141802, PubMed:17296725). Plays a role in maintaining processive DNA replication past genomic guanine-rich DNA sequences that form G-quadruplex (G4) structures, possibly together with DDX11 (PubMed:32705708). Involved in cell survival after DNA damage or replication stress by promoting DNA repair (PubMed:17141802, PubMed:17296725, PubMed:26344098, PubMed:30356214). In response to double-strand breaks (DSBs), accumulates at DNA damage sites and promotes homologous recombination repair via its interaction with PARP1 (PubMed:26344098, PubMed:30356214, PubMed:31138685). May be specifically required for the ATR-CHEK1 pathway in the replication checkpoint induced by hydroxyurea or ultraviolet light (PubMed:15798197). Involved in the determination of period length and in the DNA damage-dependent phase advancing of the circadian clock (PubMed:23418588, PubMed:31138685). Negatively regulates CLOCK|NPAS2-ARTNL/BMAL1|ARTNL2/BMAL2-induced transactivation of PER1 possibly via translocation of PER1 into the nucleus (PubMed:31138685, PubMed:9856465). May play a role as destabilizer of the PER2-CRY2 complex (PubMed:31138685). May also play an important role in epithelial cell morphogenesis and formation of branching tubules (By similarity).

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

ab248557 is the carrier-free version of ab133569.

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.

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	Timeless also known as timeless circadian regulator is a protein with a molecular mass of about 139 kDa. It plays an important role in the stabilization of the circadian rhythm in mammals. Timeless associates with other clock proteins and participates in the feedback loop that drives circadian oscillations influencing hormonal and metabolic pathways. Researchers find Timeless expression primarily in the suprachiasmatic nucleus of the brain the central circadian pacemaker but it is also present in peripheral tissues.
Biological function summary	The protein influences the circadian rhythm by interacting with CLOCK and BMAL1 forming part of a macromolecular complex. Timeless helps sustain the proper timing and expression of various genes influenced by the circadian rhythm ensuring an orderly and synchronized cellular process across tissues. Its interaction with other clock components regulates circadian-controlled pathways governing processes like sleep-wake cycles hormone release and cell metabolism.
Pathways	Timeless participates in the regulation of the circadian rhythm and the cell cycle. It interacts with PER1 and PER2 proteins central to the inhibition of the CLOCK/BMAL1 complex which plays a pivotal role in maintaining the circadian clock's precision. Timeless also interfaces with proteins involved in DNA damage response pathways promoting effective DNA repair during cell division and aligning cell cycle regulation with circadian rhythms.

Associated diseases and disorders	Timeless has been linked to cancer and sleep disorders. The protein's role in DNA repair and cell cycle control associates it with tumorigenesis when its function becomes dysregulated. Additionally disruptions in Timeless expression or function are connected to sleep phase disorders highlighting its involvement in maintaining proper circadian function. In cancer alterations in Timeless could lead to interactions with oncogenes or tumor suppressors potentially affecting cancer progression.

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

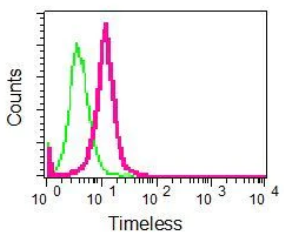
We do not recommend this combination. It is not covered by our product promise.

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.

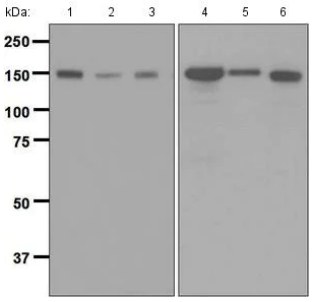
2 product images



Flow Cytometry (Intracellular) - Anti-Timeless antibody [EPR5274(2)] - BSA and Azide free (ab248557)

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

This data was developed using ab133569, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of permeabilized mouse NIH/3T3 cells staining Timeless using ab133569 at a 1/10 dilution (red) or a rabbit IgG control antibody (green).



Western blot - Anti-Timeless antibody [EPR5274(2)] - BSA and Azide free (ab248557)

This data was developed using ab133569, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Timeless antibody [EPR5274(2)] (ab133569) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
HeLa cell lysate at 10 µg

Lane 3:
JAR cell lysate at 10 µg

Lane 4:
RAW 264.7 cell lysate at 10 µg

Lane 5:
PC12 cell lysate at 10 µg

Lane 6:
NIH/3T3 cell lysate at 10 µg

Secondary

All lanes:
Standard HRP labelled goat anti-rabbit at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 139 kDa

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