10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1767

Specification

KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q9UNS1
Reactivity	**Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 139 kDa , observed , 150 kDa KDa**
Gene Name	**TIMELESS**
Aliases	**TIMELESS; Timeless Circadian Regulator; HTIM; TIM1; TIM; Timeless Circadian Clock 1; Protein Timeless Homolog; Timeless (Drosophila) Homolog; Timeless Homolog (Drosophila); Tof1 Homolog (S. Cerevisiae); Timeless Homolog; Tof1 Homolog; TIMELESS1; FASPS4**
Immunogen	**A synthesized peptide derived from human Timeless**

KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody - Additional Information

Gene ID	**8914**

Other Names
Protein timeless homolog, hTIM, TIMELESS {ECO:0000312|EMBL:AAH50557.1}

KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody - Protein Information

Name TIMELESS {ECO:0000312|EMBL:AAH50557.1}

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:<a href="http://www.uniprot.org/citations/35585232"

target="_blank">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 DDX1 (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).

Cellular Location
Nucleus. Chromosome Note=In response to double-strand breaks (DSBs), accumulates at DNA damage sites via its interaction with PARP1

Tissue Location
Expressed in all tissues examined including brain, heart, lung, liver, skeletal muscle, kidney, placenta, pancreas, spleen, thymus and testis. Highest levels of expression in placenta, pancreas, thymus and testis.

KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody - Protocols

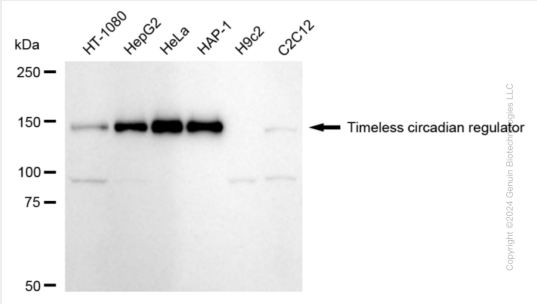
Provided below are standard protocols that you may find useful for product applications.

- Western Blot

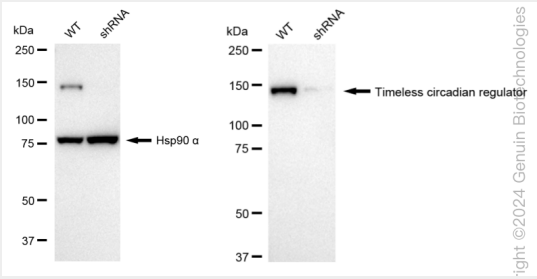
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

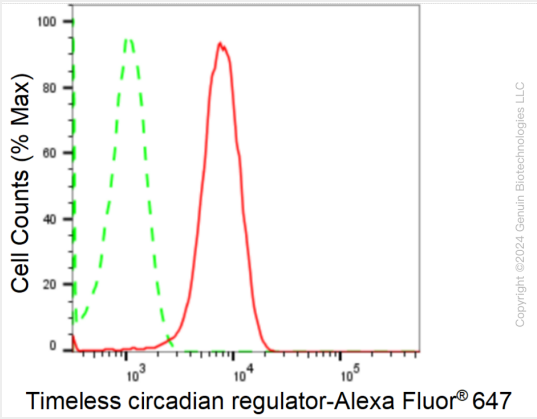
KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Timeless circadian regulator antibody (Cat#AGI1767). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Timeless circadian regulator antibody (Cat#AGI1767, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



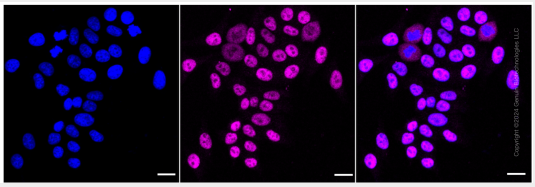
Western blotting analysis using anti-timeless circadian regulator antibody (Cat#AGI1767). Timeless circadian regulator expression in wild-type (WT) and timeless circadian regulator (TIMELESS) shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-timeless circadian regulator antibody (Cat#AGI1767, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of Timeless circadian regulator expression in HepG2 cells using anti-Timeless circadian regulator antibody (Cat#AGI1767, 1:2,000). Green, isotype control; red,

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Timeless circadian regulator.



Immunocytochemical staining of HepG2 cells with anti-Timeless circadian regulator antibody (Cat#AGI1767, 1:1,000). Nuclei were stained blue with DAPI; Timeless circadian regulator was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.