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KD-Validated Anti-Timeless Circadian Regulator Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1767

Product Information

Application	WB, FC, ICC
Primary Accession	Q9UNS1
Reactivity	Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB2665
Calculated MW	138658
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

Additional Information

Gene ID	8914
Other Names	Protein timeless homolog, hTIM, TIMELESS {ECO:0000312|EMBL:AAH50557.1}

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: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).
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.

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