

Rabbit Clock Polyclonal Antibody | anti-Clock antibody

Clock Antibody

CATALOG # AAA302780	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS Immunohistochemistry, Western Blot
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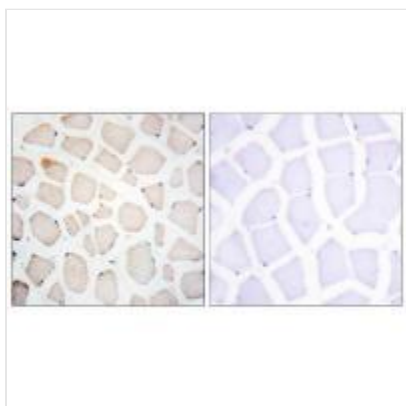
PRODUCT SYNONYMS

Clock; Polyclonal Antibody; Clock Antibody; circadian locomotor output cycles kaput; hCLOCK; CLOCK; KIAA0334; anti-Clock antibody

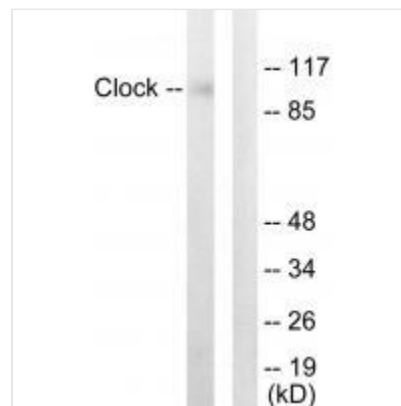
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Specificity	The antibody detects endogenous levels of total Clock protein.
Purity/Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Form/Format	Rabbit IgG in phosphate buffered saline (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1.0 mg/ml (varies by lot)
Sequence Length	846
Applicable Applications for anti-Clock antibody	IHC (Immunohistochemistry), WB (Western Blot)
Immunogen Type	Peptide
Immunogen Description	Synthesized peptide derived from Internal of human Clock.
Target Name	Clock
Preparation and Storage	Store at -20 degree C

IMAGES


IHC (Immunohistochemistry)

Immunohistochemistry analysis of paraffin-embedded human skeletal muscle tissue using Clock antibody.


WB (Western Blot)

Western blot analysis of extracts from HUVEC cells, using Clock antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-Clock antibody	Transcriptional activator which forms a core component of the circadian clock. The circadian clock, an internal time-keeping system, regulates various physiological processes through the generation of approximately 24 hour circadian rhythms in gene expression, which are translated into rhythms in metabolism and behavior. It is derived from the Latin roots 'circa' (about) and 'diem' (day) and acts as an important regulator of a wide array of physiological functions including metabolism, sleep, body temperature, blood pressure, endocrine, immune, cardiovascular, and renal function. Consists of two major components: the central clock, residing in the suprachiasmatic nucleus (SCN) of the brain, and the peripheral clocks that are present in nearly every tissue and organ system. Both the central and peripheral clocks can be reset by environmental cues, also known as Zeitgebers (German for 'timegivers'). The predominant Zeitgeber for the central clock is light, which is sensed by retina and signals directly to the SCN. The central clock entrains the peripheral clocks through neuronal and hormonal signals, body temperature and feeding-related cues, aligning all clocks with the external light/dark cycle. Circadian rhythms allow an organism to achieve temporal homeostasis with its environment at the molecular level by regulating gene expression to create a peak of protein expression once every 24 hours to control when a particular physiological process is most active with respect to the solar day. Transcription and translation of core clock components (CLOCK, NPAS2, ARNTL/BMAL1, ARNTL2/BMAL2, PER1, PER2, PER3, CRY1 and CRY2) plays a critical role in rhythm generation, whereas delays imposed by post-translational modifications (PTMs) are important for determining the period (tau) of the rhythms (tau refers to the period of a rhythm and is the length, in time, of one complete cycle). A diurnal rhythm is synchronized with the day/night cycle, while the ultradian and infradian rhythms have a period shorter and longer than 24 hours, respectively. Disruptions in the circadian rhythms contribute to the pathology of cardiovascular diseases, cancer, metabolic syndromes and aging. A transcription/translation feedback loop (TTFL) forms the core of the molecular circadian clock mechanism. Transcription factors, CLOCK or NPAS2 and ARNTL/BMAL1 or ARNTL2/BMAL2, form the positive limb of the feedback loop, act in the form of a heterodimer and activate the transcription of core clock genes and clock-controlled genes (involved in key metabolic processes), harboring E-box elements (5'-CACGTG-3') within their promoters. The core clock genes: PER1/2/3 and CRY1/2 which are transcriptional repressors form the negative limb of the feedback loop and interact with the CLOCK NPAS2-ARNTL/BMAL1 ARNTL2/BMAL2 heterodimer inhibiting its activity and thereby negatively regulating their own expression. This heterodimer also activates nuclear receptors NR1D1, NR1D2, RORA, RORB and RORG, which form a second feedback loop and which activate and repress ARNTL/BMAL1 transcription, respectively. CLOCK has an intrinsic acetyltransferase activity, which enables circadian chromatin remodeling by acetylating histones and nonhistone proteins, including its own partner ARNTL/BMAL1. Regulates the circadian expression of ICAM1, VCAM1, CCL2, THPO and MPL and also acts as an enhancer of the transactivation potential of NF-kappaB. Plays an important role in the homeostatic regulation of sleep. The CLOCK-ARNTL/BMAL1 heterodimer regulates the circadian expression of SERPINE1/PAI1, VWF, B3, CCRN4L/NOC, NAMPT, DBP, MYOD1, PPARGC1A, PPARGC1B, SIRT1, GYS2, F7, NGFR, GNRHR, BHLHE40/DEC1 and also genes implicated in glucose and lipid metabolism. Represses glucocorticoid receptor NR3C1/GR-induced transcriptional activity by reducing the association of NR3C1/GR to glucocorticoid response elements (GREs) via the acetylation of multiple lysine residues located in its hinge region. Promotes rhythmic chromatin opening, regulating the DNA accessibility of other transcription factors. The CLOCK-ARNTL2/BMAL2 heterodimer activates the transcription of SERPINE1/PAI1 and BHLHE40/DEC1. Steeves T.D.L., Genomics 57:189-200(1999). Nagase T., DNA Res. 4:141-150(1997). Sato T.K., Nat. Genet. 38:312-319(2006).
Product Categories/Family for anti-Clock antibody	Total protein Ab

NCBI AND UNIPROT INFORMATION

NCBI GI #	392841204
NCBI GeneID	9575
NCBI Accession #	NP_001254772.1
NCBI GenBank Nucleotide #	NM_001267843.1
UniProt Accession #	O15516; O14516; Q9UIT8; A0AV01; A2I2N9
Molecular Weight	95,304 Da
NCBI Official Full Name	circadian locomotor output cycles protein kaput
NCBI Official Synonym Full Names	clock circadian regulator
NCBI Official Symbol	CLOCK

NCBI Official Synonym Symbols	KAT13D; bHLHe8
NCBI Protein Information	circadian locomoter output cycles protein kaput
UniProt Protein Name	Circadian locomoter output cycles protein kaput
UniProt Gene Name	CLOCK
UniProt Synonym Gene Names	BHLHE8; KIAA0334; hCLOCK; bHLHe8
UniProt Entry Name	CLOCK_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/clock-antibody-immunohistochemistry-western-blot-elisa/302780>