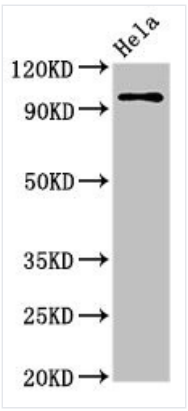
CLOCK Antibody – Rabbit Polyclonal

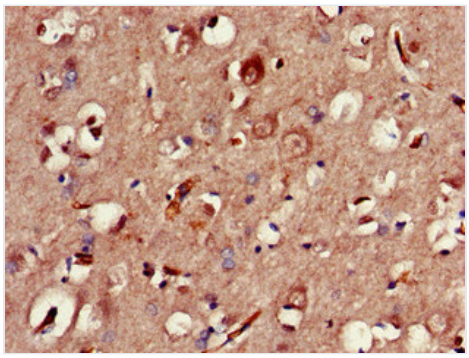
PRODUCT OVERVIEW

Product Name	CLOCK, Polyclonal Antibody
Full Product Name	CLOCK Antibody
Product Gene Name	anti-CLOCK antibody
Product Synonym Names	Circadian locomoter output cycles protein kaput; hCLOCK; Class E basic helix-loop-helix protein 8; bHLHe8; CLOCK; BHLHE8; KIAA0334
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid
Purity/Purification	>95%, Protein G purified
Preparation and Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Matching Pairs	Unconjugated Antibody: CLOCK (MBS7051869) HRP Conjugated Antibody: CLOCK (MBS7051870)
Matching Pairs	Unconjugated Antibody: CLOCK (MBS7051869) FITC Conjugated Antibody: CLOCK (MBS7051871)
Matching Pairs	Unconjugated Antibody: CLOCK (MBS7051869) Biotin Conjugated Antibody: CLOCK (MBS7051872)
OMIM	AF011568 mRNA
3D Structure	ModBase 3D Structure for O15516
Immunogen	Recombinant Human Circadian locomoter output cycles protein kaput protein (577-846AA)
Immunogen Species	Homo sapiens (Human)
Research Area	Neuroscience
Conjugation	Non-conjugated
Storage Buffer	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, pH 7.4
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-CLOCK antibody	ELISA (EIA), Western Blot (WB), Immunohistochemistry (IHC), Immunofluorescence (IF)
Application Notes for anti-CLOCK antibody	WB: 1:500-1:5000 IHC: 1:20-1:200 IF: 1:50-1:200
Related Product Information for anti-CLOCK antibody	MBS7051869 is an antibody targeting CLOCK. Also known as CLOCK Antibody. Reactive in Human. Host: Rabbit.

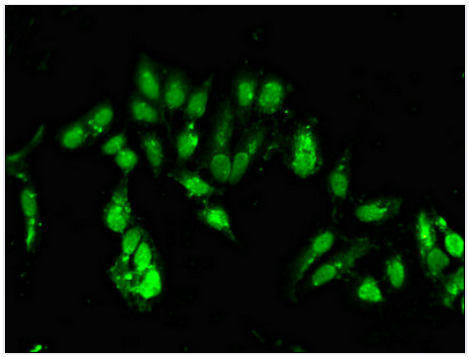
Other Notes	Small volumes of anti-CLOCK antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Western Blot (WB) of anti-CLOCK antibody
Western BlotPositive WB detected in: Hela whole cell lysateAll lanes: CLOCK antibody at 3.5ug/mlSecondaryGoat polyclonal to rabbit IgG at 1/50000 dilutionPredicted band size: 96 KDaObserved band size: 96 KDa



Immunohistochemistry (IHC) of anti-CLOCK antibody
Immunohistochemistry of paraffin-embedded human brain tissue using MBS7051869 at dilution of 1:100



Immunohistochemistry (IHC) of anti-CLOCK antibody
Immunofluorescent analysis of Hela cells using MBS7051869 at a dilution of 1:100 and Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG(H+L)

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CLOCK. It may not necessarily be applicable to this product.

NCBI GI #	392841204
NCBI GeneID	9575
NCBI Accession #	NP_001254772.1
UniProt Primary Accession #	O15516
UniProt Secondary Accession #	O14516; Q9UIT8; A0AV01; A2I2N9
UniProt Related Accession #	O15516
GenBank Nucleotide #	NM_001267843.1
NCBI Official Full Name	circadian locomoter output cycles protein kaput
NCBI Official Synonym Full Names	clock circadian regulator
NCBI Official Symbol	CLOCK
NCBI Official Synonym Symbols	KAT13D; bHLHe8
UniProt Protein Name	Circadian locomoter output cycles protein kaput

UniProt Synonym Protein Names	Class E basic helix-loop-helix protein 8; bHLHe8
Protein Family	Circadian locomoter output cycles protein
UniProt Gene Name	CLOCK
UniProt Synonym Gene Names	BHLHE8; KIAA0334; hCLOCK; bHLHe8
NCBI Protein Information	circadian locomoter output cycles protein kaput
NCBI Summary for CLOCK	The protein encoded by this gene plays a central role in the regulation of circadian rhythms. The protein encodes a transcription factor of the basic helix-loop-helix (bHLH) family and contains DNA binding histone acetyltransferase activity. The encoded protein forms a heterodimer with ARNTL (BMAL1) that binds E-box enhancer elements upstream of Period (PER1, PER2, PER3) and Cryptochrome (CRY1, CRY2) genes and activates transcription of these genes. PER and CRY proteins heterodimerize and repress their own transcription by interacting in a feedback loop with CLOCK/ARNTL complexes. Polymorphisms in this gene may be associated with behavioral changes in certain populations and with obesity and metabolic syndrome. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jan 2014]
UniProt Comments for CLOCK	CLOCK: ARNTL/2-CLOCK heterodimers activate E-box element (3'- CACGTG-5') transcription of a number of proteins of the circadian clock. Activates transcription of PER1 and PER2. This transcription is inhibited in a feedback loop by PER and CRY proteins. Has intrinsic histone acetyltransferase activity and this enzymatic function contributes to chromatin-remodeling events implicated in circadian control of gene expression. Acetylates primarily histones H3 and H4. Acetylates also a non-histone substrate: ARNTL. Plays a role in DNA damage response (DDR) signaling during the S phase. Component of the circadian clock oscillator which includes the CRY proteins, CLOCK or NPAS2, ARNTL or ARNTL2, CSNK1D and/or CSNK1E, TIMELESS and the PER proteins. Efficient DNA binding requires dimerization with another bHLH protein. Heterodimerization with ARNTL is required for E-box-dependent transactivation, for CLOCK nuclear translocation and degradation, and, for phosphorylation of both CLOCK and ARNTL. Interaction with PER and CRY proteins requires translocation to the nucleus. Interaction of the CLOCK-ARNTL heterodimer with PER or CRY inhibits transcription activation. Binds weakly ARNTL and ARNTL2 to form heterodimers which bind poorly to the E-box motif. Expressed in all tissues examined including spleen, thymus, prostate, testis, ovary, small intestine, colon, leukocytes, heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Highest levels in testis and skeletal muscle. Low levels in thymus, lung and liver. Expressed in all brain regions with highest levels in cerebellum. Highly expressed in the suprachiasmatic nucleus (SCN). Protein type: Acetyltransferase; DNA-binding; EC 2.3.1.48; Transcription factor Chromosomal Location of Human Ortholog: 4q12 Cellular Component: chromosome; intracellular membrane-bound organelle; nucleoplasm; nucleus; transcription factor complex Molecular Function: chromatin DNA binding; DNA binding; histone acetyltransferase activity; protein binding; sequence-specific DNA binding; transcription factor activity Biological Process: activation of NF-kappaB transcription factor; circadian regulation of gene expression; circadian rhythm; DNA damage checkpoint; negative regulation of transcription, DNA-dependent; photoperiodism; positive regulation of transcription from RNA polymerase II promoter; positive regulation of transcription, DNA-dependent; proteasomal ubiquitin-dependent protein catabolic process; regulation of hair cycle; regulation of insulin secretion; regulation of transcription from RNA polymerase II promoter; regulation of transcription, DNA-dependent; response to redox state; signal transduction; spermatogenesis
Research Articles on CLOCK	**1.** The possession of CLOCK rs3749474 may influence the effect of reducing the percentage intake of dietary fat on obesity-associated variables and carrying this SNP might benefit more than others from weight loss treatment involving dietary fat restriction.
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