

PRODUCT INFORMATION

Product name : CLOCK antibody

Product type : Primary antibodies

Description : Rabbit polyclonal to CLOCK

Immunogen : 3 synthetic peptides (human) conjugated to KLH

Reacts with : Human, Mouse

Tested applications : ELISA, WB and IF

GENE INFORMATION

Gene Symbol : CLOCK

Gene Name : clock homolog (mouse)

Ensembl ID : ENSG00000134852

Entrez GeneID : 9575

GenBank Accession number : AF011568

Omim ID : 601851

Swiss-Prot : O15516

Molecular weight of CLOCK : 95.3kDa

Function : 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

Expected subcellular localization : Cytoplasm. Nucleus. Note: Shuffling between the cytoplasm and the nucleus is under circadian regulation and is ARNTL-dependent. Phosphorylated form located in the nucleus

Summary : This gene encodes a protein that belongs to the basic helix-loop-helix (bHLH) family of transcription factors. Polymorphisms within the encoded protein have been associated with circadian rhythm sleep disorders. A similar protein in mice is a circadian regulator that acts as a transcription factor and forms a heterodimer with aryl hydrocarbon receptor nuclear translocator-like to activate transcription of mouse period 1. [provided by RefSeq, Jul 2008]

APPLICATION NOTE

Recommended dilution :

- **ELISA:** Antibody specificity was verified by direct ELISA against the 3 immunogen peptides. A minimum titer of 1/15000 is determined. Appropriate specificity controls were run.
- **WB:** 1/10000.
- **IF:** 1/1000.

Optimal dilutions/concentration should be determined by the end user.

Raised in : Rabbit

Clonality : Polyclonal

Isotype : IgG

Purity : Purified Antibody

Storage buffer : 0.5 X PBS, 50% glycerol containing a final concentration of 0.1% BSA and 0.01% Thimerosal.

Form : Liquid

Storage instruction : Store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

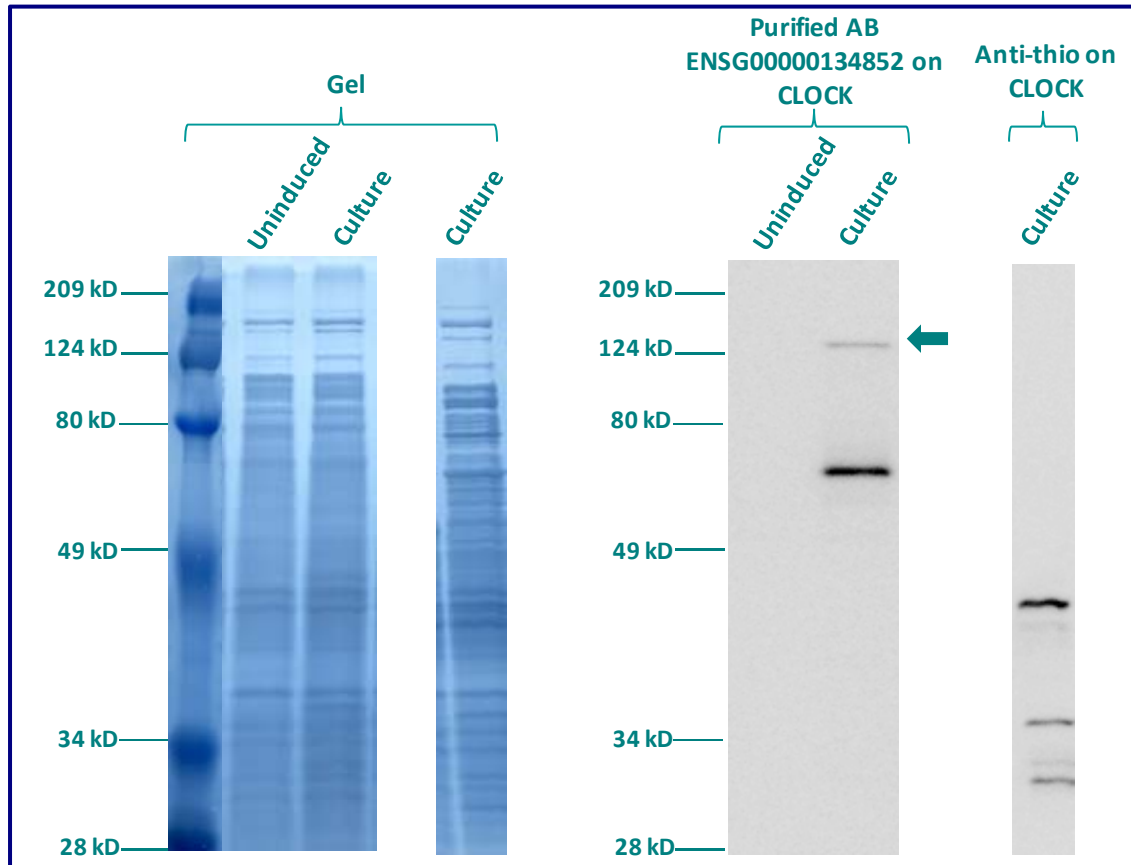
WESTERN BLOT ON RECOMBINANT PROTEIN

The purified antibody ENSG00000134852 has been tested at 1/20000 on uninduced (negative control) and induced culture of E.coli (one shot Top10 competent cells).

An anti-thio has been tested at 1/5000 on induced culture of E.coli (one shot Top10 competent cells) as a positive control.

Plasmid name : pBAD-DEST49.

Molecular weight of CLOCK : 109.3Da (95.3kDa + another 14kDa for the tag).



Gel concentration: 10%

Blocking: in 5% non-fat milk-PBST solution

1st Antibody: The antibodies are diluted in blocking buffer.

- Dilute the purified antibody ENSG00000134852 at 1: 10000
- Dilute the anti-thio at 1:5000

60 minutes of incubation

2nd Antibody: The antibody is diluted in blocking buffer.

- Dilute the anti-Rabbit IgG HRP conjugated at 1/10000
- 60 minutes of incubation**

IMMUNOFLUORESCENCE ANALYSIS

Immunofluorescence analysis of Circadian locomoter output cycles protein kaput (CLOCK) expression in 5 cells lines (HELA, 293T/17, Capan-2, SAOS2, SH-SY5Y, Skin 3,44). The purified Antibody ENSG00000134852 has been tested at 1/5000.

Red staining : cytoskeleton (microtubules/ α -tubuline)

Blue staining : nucleus (Hoechst)

Green staining : anti- CLOCK antibody (purified)

Expected subcellular location : Cytoplasm and nucleus.

Note: Shuffling between the cytoplasm and the nucleus is under circadian regulation and is ARNTL-dependent. Phosphorylated form located in the nucleus

Expected tissue specificity : 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).

