

Clock (H-276): sc-25361

BACKGROUND

Biological timepieces called circadian clocks are responsible for the regulation of hormonal rhythms, sleep cycles and other behaviors. The suprachiasmatic nucleus (SCN), which is located in the brain, was the first mammalian circadian clock to be discovered. Clock, a member of the basic-helix-loop-helix-PAS (bHLH-PAS) family of transcription factors, has also been identified as having circadian function. Mutations within the Clock gene have been shown to increase the length of the endogenous period and to cause a loss of rhythmicity of circadian oscillations. Clock contains a DNA-binding domain, a protein dimerization domain and a glutamine-rich C-terminal region, which indicates transactivation capabilities. It has been speculated that Clock may regulate circadian rhythmicity in combination with other proteins such as Per. Per is also a PAS-domain containing protein that exhibits circadian function. Highest expression of Clock is seen in the hypothalamus and the eye.

CHROMOSOMAL LOCATION

Genetic locus: CLOCK (human) mapping to 4q12; Clock (mouse) mapping to 5 C3.3.

SOURCE

Clock (H-276) is a rabbit polyclonal antibody raised against amino acids 571-846 of Clock of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25361 X, 200 µg/0.1 ml.

APPLICATIONS

Clock (H-276) is recommended for detection of Clock of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Clock (H-276) is also recommended for detection of Clock in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Clock siRNA (h): sc-35074, Clock siRNA (m): sc-35075, Clock siRNA (r): sc-270115, Clock shRNA Plasmid (h): sc-35074-SH, Clock shRNA Plasmid (m): sc-35075-SH, Clock shRNA Plasmid (r): sc-270115-SH, Clock shRNA (h) Lentiviral Particles: sc-35074-V, Clock shRNA (m) Lentiviral Particles: sc-35075-V and Clock shRNA (r) Lentiviral Particles: sc-270115-V.

Clock (H-276) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Clock: 95 kDa.

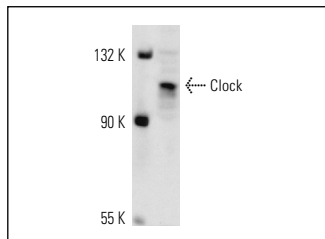
Molecular Weight (observed) of Clock: 90-110 kDa.

Positive Controls: Sol8 cell lysate: sc-2249 or rat brain extract: sc-2392.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Clock (H-276): sc-25361. Western blot analysis of Clock expression in Sol8 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Miyamoto, N., et al. 2008. Tip60 is regulated by circadian transcription factor Clock and is involved in cisplatin resistance. *J. Biol. Chem.* 283: 18218-18226.
2. Ward, S.M., et al. 2010. The transcriptional repressor ID2 can interact with the canonical clock components CLOCK and BMAL1 and mediate inhibitory effects on mPer1 expression. *J. Biol. Chem.* 285: 38987-39000.
3. Kaeffer, B., et al. 2011. Non-invasive exploration of neonatal gastric epithelium by using exfoliated epithelial cells. *PLoS ONE* 6: e25562.
4. Kalamvoki, M. and Roizman, B. 2011. The histone acetyltransferase CLOCK is an essential component of the herpes simplex virus 1 transcriptome that includes TFIIID, ICP4, ICP27, and ICP22. *J. Virol.* 85: 9472-9477.
5. Paziienza, V., et al. 2012. SIRT1 and the clock gene machinery in colorectal cancer. *Cancer Invest.* 30: 98-105.
6. Nascimento, E., et al. 2013. Long-lasting effect of perinatal exposure to L-tryptophan on circadian clock of primary cell lines established from male offspring born from mothers fed on dietary protein restriction. *PLoS ONE* 8: e56231.
7. Kadomatsu, T., et al. 2013. A molecular clock regulates angiopoietin-like protein 2 expression. *PLoS ONE* 8: e57921.
8. Falcon, E., et al. 2013. Differential regulation of the period genes in striatal regions following cocaine exposure. *PLoS ONE* 8: e66438.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **Clock (C-8): sc-271603**, our highly recommended monoclonal alternative to Clock (H-276).