

Timeless (A-3): sc-393122

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. A number of transcription factors appearing to be molecular components of the SCN clock have been identified. Mutations within the Clock gene increase the length of the endogenous period and cause a loss of rhythmicity of circadian oscillations. Three mammalian period proteins designated Per1, Per2 and Per3 exhibit circadian rhythms in the SCN. During subjective night, Per1 and Per2 RNA levels increase in response to light pulses while Per3 RNA levels show no change in response to light pulses. Timeless (also known as Tim) interacts with Per1 as well as Per2; and Timeless and Per1 negatively regulate Clock-BMAL1-induced transcription.

REFERENCES

- Morell, V. 1996. A 24-hour circadian clock is found in the mammalian retina. *Science* 272: 349.
- King, D.P., et al. 1997. The mouse Clock mutation behaves as an antimorph and maps within the W19H deletion, distal of Kit. *Genetics* 146: 1049-1060.
- Antoch, M.P., et al. 1997. Functional identification of the mouse circadian Clock gene by transgenic BAC rescue. *Cell* 89: 655-667.
- Zylka, M.J., et al. 1998. Three period homologs in mammals: differential light responses in the suprachiasmatic circadian clock and oscillating transcripts outside of brain. *Neuron* 20: 1103-1110.
- Sangoram, A.M., et al. 1998. Mammalian circadian autoregulatory loop: a Timeless ortholog and mPer1 interact and negatively regulate CLOCK-BMAL1-induced transcription. *Neuron* 21: 1101-1113.

CHROMOSOMAL LOCATION

Genetic locus: TIMELESS (human) mapping to 12q13.3; Timeless (mouse) mapping to 10 D3.

SOURCE

Timeless (A-3) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Timeless of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393122 X, 200 µg/0.1 ml.

Timeless (A-3) is available conjugated to agarose (sc-393122 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393122 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393122 PE), fluorescein (sc-393122 FITC), Alexa Fluor® 488 (sc-393122 AF488), Alexa Fluor® 546 (sc-393122 AF546), Alexa Fluor® 594 (sc-393122 AF594) or Alexa Fluor® 647 (sc-393122 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393122 AF680) or Alexa Fluor® 790 (sc-393122 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Timeless (A-3) is recommended for detection of Timeless of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

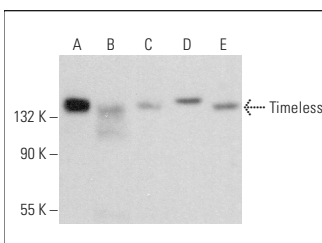
Suitable for use as control antibody for Timeless siRNA (h): sc-72016, Timeless siRNA (m): sc-72017, Timeless siRNA (r): sc-270603, Timeless shRNA Plasmid (h): sc-72016-SH, Timeless shRNA Plasmid (m): sc-72017-SH, Timeless shRNA Plasmid (r): sc-270603-SH, Timeless shRNA (h) Lentiviral Particles: sc-72016-V, Timeless shRNA (m) Lentiviral Particles: sc-72017-V and Timeless shRNA (r) Lentiviral Particles: sc-270603-V.

Timeless (A-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

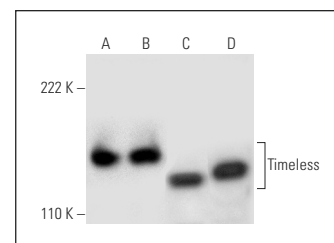
Molecular Weight of Timeless: 180 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Timeless (A-3): sc-393122. Western blot analysis of Timeless expression in Jurkat (A), OVCAR-3 (B), M1 (C), 3T3-L1 (D) and RAW 264.7 (E) whole cell lysates.



Timeless (A-3): sc-393122. Western blot analysis of Timeless expression in HeLa (A) and Jurkat (B) nuclear extracts and RAW 264.7 (C) and NIH/3T3 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Cali, F., et al. 2016. Tim/Timeless, a member of the replication fork protection complex, operates with the Warsaw breakage syndrome DNA helicase DDX11 in the same fork recovery pathway. *Nucleic Acids Res.* 44: 705-717.
- Yang, Y., et al. 2021. Functional cooperation between co-amplified genes promotes aggressive phenotypes of HER2-positive breast cancer. *Cell Rep.* 34: 108822.

STORAGE

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

RESEARCH USE

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