SANTA CRUZ BIOTECHNOLOGY, INC.

Timeless (G-4): sc-393146

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Biological timepieces called circadian clocks are responsible for the regulation of hormonal rhythms, sleep cycles and other behaviors. The superchiasmatic 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 rhythyms 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

1. Morell, V. 1995. A 24-hour circadian clock is found in the mammalian retina. Science 272: 349.
2. King, D.P., Vitaterna, M.H., Chang, A.M., Dove, W.F., Pinto, L.H., Turek, F.W. and Takahashi, J.S. 1997. The mouse Clock mutation behaves as an antimorph and maps within the W19H deletion, distal of Kit. Genetics 146: 1049-1060.
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4. Zylka, M.J., Shearman, L.P., Weaver, D.R. and Reppert, S.M. 1998. Three period homologs in mammals: differential light responses in the suprachiasmatic circadian clock and oscillating transcripts outside of brain. Neuron 20: 1103-1110.
5. Sangoram, A.M., Saez, L., Antoch, M.P., Gekakis, N., Staknis, D., Whiteley, A., Fruechte, E.M., Vitaterna, M.H., Shimomura, K., King, D.P., Young, M.W., Weitz, C.J. and Takahashi, J.S. 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 (G-4) 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 IgG_{2a} 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-393146 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

Timeless (G-4) 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 (G-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

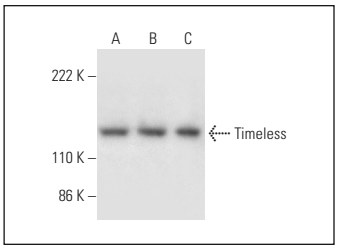
Molecular Weight of Timeless: 180 kDa.

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

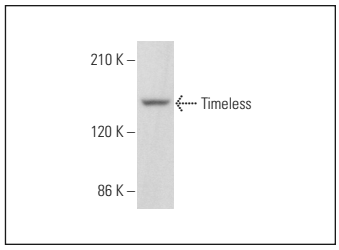
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Timeless (G-4): sc-393146. Western blot analysis of Timeless expression in Jurkat (**A**) and HeLa (**B**) nuclear extracts and NIH/3T3 whole cell lysate (**C**).



Timeless (G-4): sc-393146. Western blot analysis of Timeless expression in RAW 264.7 whole cell lysate.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.