SANTA CRUZ BIOTECHNOLOGY, INC.

Per2 (H-90): sc-25363

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. Tim, for timeless, interacts with Per1 as well as Per2; and Tim and Per1 negatively regulate Clock-BMAL1-induced transcription.

CHROMOSOMAL LOCATION

Genetic locus: PER2 (human) mapping to 2q37.3; Per2 (mouse) mapping to 1 D.

SOURCE

Per2 (H-90) is a rabbit polyclonal antibody raised against amino acids 1-90 mapping at the N-terminus of Per2 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 agarose conjugate for immunoprecipitation, sc-25363 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25363 X, 200 µg/0.1 ml.

APPLICATIONS

Per2 (H-90) is recommended for detection of Per2 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). Suitable for use as control antibody for Per2 siRNA (h): sc-36209, Per2 siRNA (m): sc-36210, Per2 shRNA Plasmid (h): sc-36209-SH, Per2 shRNA Plasmid (m): sc-36210-SH, Per2 shRNA (h) Lentiviral Particles: sc-36209-V and Per2 shRNA (m) Lentiviral Particles: sc-36210-V.

Per2 (H-90) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Per2: 140 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Per2 (h): 293T Lysate: sc-129449 or A-10 nuclear extract: sc-24959.

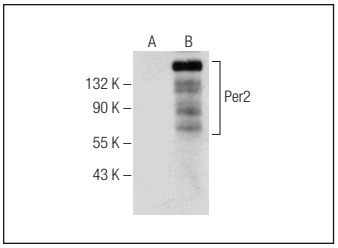
STORAGE

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

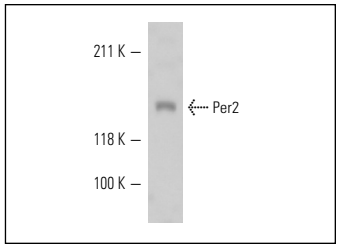
RESEARCH USE

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

DATA



Per2 (H-90): sc-25363. Western blot analysis of Per2 expression in non-transfected: sc-117752 (**A**) and human Per2 transfected: sc-129449 (**B**) 293T whole cell lysates.



Per2 (H-90): sc-25363. Western blot analysis of Per2 expression in A-10 nuclear extract.

SELECT PRODUCT CITATIONS

1. Borgs, L., et al. 2009. Period 2 regulates neural stem/progenitor cell proliferation in the adult hippocampus. BMC Neurosci. 10: 30.
2. Yoshida, K., et al. 2010. Up-regulation of circadian clock gene Period 2 in the prostate mesenchymal cells during flutamide-induced apoptosis. Mol. Cell. Biochem. 335: 37-45.
3. Uchikawa, M., et al. 2011. Down-regulation of circadian clock gene period 2 in uterine endometrial stromal cells of pregnant rats during decidualization. Chronobiol. Int. 28: 1-9.
4. Chu, G., et al. 2011. Alterations of circadian clockworks during differentiation and apoptosis of rat ovarian cells. Chronobiol. Int. 28: 477-487.
5. O'Keeffe, S.M., et al. 2012. The noradrenaline reuptake inhibitor atomoxetine phase-shifts the circadian clock in mice. Neuroscience 201: 219-230.
6. Thoennissen, N.H., et al. 2012. Transcription factor CCAAT/enhancer-binding protein alpha and critical circadian clock downstream target gene PER2 are highly deregulated in diffuse large B-cell lymphoma. Leuk. Lymphoma 53: 1577-1585.

PROTOCOLS

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