SANTA CRUZ BIOTECHNOLOGY, INC.

Per2 (G-19): sc-7729

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.

REFERENCES

1. Morell, V. 1995. A 24-hour circadian clock is found in the mammalian retina. Science 272: 349.
2. 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.
3. Antoch, M.P., et al. 1997. Functional identification of the mouse circadian Clock gene by transgenic BAC rescue. Cell 89: 655-667.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: Per2 (mouse) mapping to 1 D.

SOURCE

Per2 (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Per2 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7729 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7729 X, 200 µg/0.1 ml.

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.

APPLICATIONS

Per2 (G-19) is recommended for detection of Per2 of mouse and rat 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 (m): sc-36210, Per2 shRNA Plasmid (m): sc-36210-SH and Per2 shRNA (m) Lentiviral Particles: sc-36210-V.

Per2 (G-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

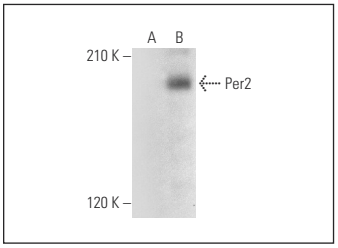
Molecular Weight of Per2: 140 kDa.

Positive Controls: A-10 nuclear extract: sc-24959.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Per2 (G-19): sc-7729. Western blot analysis of Per2 expression in non-transfected: sc-117752 (**A**) and human Per2 transfected: sc-129449 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bendová, Z., et al. 2006. Photoperiodic regulation of PER1 and PER2 protein expression in rat peripheral tissues. Physiol. Res. 55: 623-632.
2. Fang, M.Z., et al. 2010. Methylselenocysteine resets the rhythmic expression of circadian and growth-regulatory genes disrupted by nitrosomethylurea *in vivo*. Cancer Prev. Res. 3: 640-652.