SANTA CRUZ BIOTECHNOLOGY, INC.

Per2 (C-6): sc-377290

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.

SOURCE

Per2 (C-6) is a mouse monoclonal antibody raised against amino acids 1-90 of Per2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-377290 X, 200 µg/0.1 ml.

Per2 (C-6) is available conjugated to agarose (sc-377290 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377290 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377290 PE), fluorescein (sc-377290 FITC), Alexa Fluor® 488 (sc-377290 AF488), Alexa Fluor® 546 (sc-377290 AF546), Alexa Fluor® 594 (sc-377290 AF594) or Alexa Fluor® 647 (sc-377290 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377290 AF680) or Alexa Fluor® 790 (sc-377290 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Per2 (C-6) is recommended for detection of Per2 of 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 Per2 siRNA (h): sc-36209, Per2 shRNA Plasmid (h): sc-36209-SH and Per2 shRNA (h) Lentiviral Particles: sc-36209-V.

Per2 (C-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

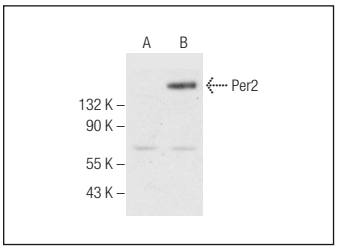
Molecular Weight of Per2: 140 kDa.

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

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



Per2 (C-6): sc-377290. 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. Kim, H.K., et al. 2018. Asymmetric expression level of Clock genes in left vs. right nasal mucosa in humans with and without allergies and in rats: circadian characteristics and possible contribution to nasal cycle. PLoS ONE 13: e0194018.
2. Ding, Z., et al. 2023. PER2/P65-driven glycogen synthase 1 transcription in macrophages modulates gut inflammation and pathogenesis of rectal prolapse. J. Biol. Chem. 299: 105219.
3. Moravčík, R., et al. 2023. Effect of miR-34a on the expression of clock and clock-controlled genes in DLD1 and Lovo human cancer cells with different backgrounds with respect to p53 functionality and 17β-estradiol-mediated regulation. PLoS ONE 18: e0292880.

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.

PROTOCOLS

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