

CRY2 (P-21): sc-130731

BACKGROUND

Circadian clocks are biological timepieces that regulate hormonal rhythms, sleep cycles and feeding behaviors. These rhythms are generated in the suprachiasmatic nucleus (SCN), a cell-autonomous circadian oscillator located within the brain that is synchronized with the environment by light. A number of transcription factors, including Clock and BMAL1, are molecular components of the SCN that induce the expression of proteins involved in light/dark cycle entrainment, which include Per1 and Per2. Tim, for timeless, generates a negative feedback loop that regulates the activity of Clock by suppressing the expression of Clock target genes. Tim forms heterodimers with Per1 and Per2 that bind Clock and block the activation of Clock-BMAL1 dimers to repress Per gene expression. Additionally, the CRY proteins, which are cryptochrome photoreceptors for the circadian clock, function as light-independent inhibitors of the circadian clock. CRY1 and CRY2 negatively regulate SCN components by associating with the activators Clock-BMAL1, and also with the various feedback inhibitors Per1, Per2 and Tim.

REFERENCES

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- Albrecht, U., et al. 1997. A differential response of two putative mammalian circadian regulators, mPer1 and mPer2, to light. *Cell* 91: 1055-1064.
- 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.
- Zylka, M.J., et al. 1998. Molecular analysis of mammalian timeless. *Neuron* 21: 1115-1122.
- Jin, X., et al. 1999. A molecular mechanism regulating rhythmic output from the suprachiasmatic circadian clock. *Cell* 96: 57-68.
- Dunlap, J.C. 1999. Molecular bases for circadian clocks. *Cell* 96: 271-290.
- Griffin, E.A., Jr., et al. 1999. Light-independent role of CRY1 and CRY2 in the mammalian circadian clock. *Science* 286: 768-771.

CHROMOSOMAL LOCATION

Genetic locus: CRY2 (human) mapping to 11p11.2; Cry2 (mouse) mapping to 2 E1.

SOURCE

CRY2 (P-21) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of CRY2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CRY2 (P-21) is recommended for detection of CRY2 of mouse 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), immunohistochemistry (including paraffin-embedded sections) (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 CRY2 siRNA (h): sc-43707, CRY2 siRNA (m): sc-44836, CRY2 shRNA Plasmid (h): sc-43707-SH, CRY2 shRNA Plasmid (m): sc-44836-SH, CRY2 shRNA (h) Lentiviral Particles: sc-43707-V and CRY2 shRNA (m) Lentiviral Particles: sc-44836-V.

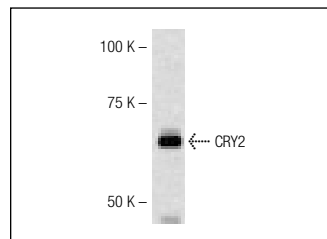
Molecular Weight of CRY2: 67 kDa.

Positive Controls: mouse liver extract: sc-2256

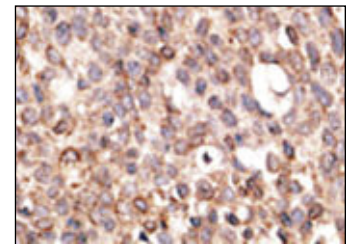
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



CRY2 (P-21): sc-130731. Western blot analysis of CRY2 expression in mouse liver tissue extract.



CRY2 (P-21): sc-130731. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic localization.

RESEARCH USE

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

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Try **CRY2 (3H4): sc-293263**, our highly recommended monoclonal alternative to CRY2 (P-21).