

CRY2 (A-20): sc-5954

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

1. Morell, V. 1996. A 24-hour circadian clock is found in the mammalian retina. *Science* 272: 349.
2. Albrecht, U., Sun, Z.S., Eichele, G. and Lee, C.C. 1997. A differential response of two putative mammalian circadian regulators, mPer1 and mPer2, to light. *Cell* 91: 1055-1064.
3. 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.
4. Zylka, M.J., Shearman, L.P., Levine, J.D., Jin, X., Weaver, D.R. and Reppert, S.M. 1998. Molecular analysis of mammalian timeless. *Neuron* 21: 1115-1122.

CHROMOSOMAL LOCATION

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

SOURCE

CRY2 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CRY2 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-5954 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CRY2 (A-20) is recommended for detection of CRY2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CRY2 (A-20) is also recommended for detection of CRY2 in additional species, including bovine.

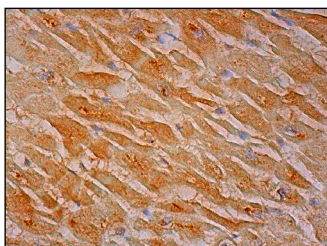
Suitable for use as control antibody for CRY2 siRNA (h): sc-43707, CRY2 siRNA (m): sc-44836, CRY2 shRNA Plasmid (h): sc-43707-SH, CRY2 shRNA Plasmid (m): sc-44836-SH, CRY2 shRNA (h) Lentiviral Particles: sc-43707-V and CRY2 shRNA (m) Lentiviral Particles: sc-44836-V.

Molecular Weight of CRY2: 67 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



CRY2 (A-20): sc-5954. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

RESEARCH USE

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

MONOS
Satisfaction
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Try **CRY2 (3H4): sc-293263**, our highly recommended monoclonal alternative to CRY2 (A-20).