

BMAL1 (H-170): sc-48790

BACKGROUND

AhR, Arnt 1, Arnt 2 and BMAL1 are members of a family of transcription factors that contain a basic helix-loop-helix motif and a common "PAS" motif. The aromatic (aryl) hydrocarbon receptor, AhR, is a ligand dependent transcription factor that interacts with specific DNA sequences termed xenobiotic responsive elements (XREs) to activate several genes including CYP1A1, glutathione S-transferase Ya subunit and DT-diaphorase. The Ah receptor nuclear translocator proteins (Arnt 1 or Arnt 2) are required for ligand-dependent nuclear translocation of the Ah receptor and are also necessary for Ah receptor binding to the XRE element. BMAL1 (brain and muscle Arnt-like protein 1), also designated Arnt3, TIC, JAP3 or MOP3, has been shown to dimerize with Clock and bind to the promoter region of mPer1, suggesting that this protein plays a role in regulation of circadian oscillation in mammals.

CHROMOSOMAL LOCATION

Genetic locus: ARNTL (human) mapping to 11p15.2; Arntl (mouse) mapping to 7 F1.

SOURCE

BMAL1 (H-170) is a rabbit polyclonal antibody raised against amino acids 441-610 mapping near the C-terminus of BMAL1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-48790 X, 200 µg/0.1 ml.

APPLICATIONS

BMAL1 (H-170) is recommended for detection of BMAL1 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), 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).

BMAL1 (H-170) is also recommended for detection of BMAL1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for BMAL1 siRNA (h): sc-38165, BMAL1 siRNA (m): sc-38166, BMAL1 siRNA (r): sc-77369, BMAL1 shRNA Plasmid (h): sc-38165-SH, BMAL1 shRNA Plasmid (m): sc-38166-SH, BMAL1 shRNA Plasmid (r): sc-77369-SH, BMAL1 shRNA (h) Lentiviral Particles: sc-38165-V, BMAL1 shRNA (m) Lentiviral Particles: sc-38166-V and BMAL1 shRNA (r) Lentiviral Particles: sc-77369-V.

BMAL1 (H-170) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of BMAL1: 69 kDa.

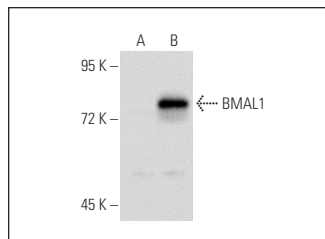
Molecular Weight (observed) of BMAL1: 75-86 kDa.

Positive Controls: BMAL1 (h2): 293T Lysate: sc-115751, mouse liver extract: sc-2256 or 3T3-L1 cell lysate: sc-2243.

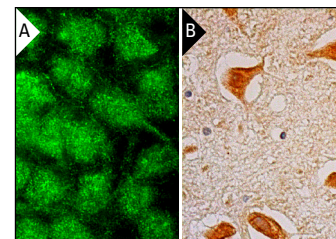
STORAGE

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

DATA



BMAL1 (H-170): sc-48790. Western blot analysis of BMAL1 expression in non-transfected: sc-117752 (A) and human BMAL1 transfected: sc-115751 (B) 293T whole cell lysates.



BMAL1 (H-170): sc-48790. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing nuclear and cytoplasmic staining of neuronal cells (B).

SELECT PRODUCT CITATIONS

1. Taniguchi, H., et al. 2009. Epigenetic inactivation of the circadian clock gene BMAL1 in hematologic malignancies. *Cancer Res.* 69: 8447-8454.
2. Dufour, C.R., et al. 2011. Genomic convergence among *ERRα*, *PROX1*, and BMAL1 in the control of metabolic clock outputs. *PLoS Genet.* 7: e1002143.
3. Elshazley, M., et al. 2012. The circadian clock gene BMAL1 is a novel therapeutic target for malignant pleural mesothelioma. *Int. J. Cancer* 131: 2820-2831.
4. O'Keefe, S.M., et al. 2012. The noradrenaline reuptake inhibitor atomoxetine phase-shifts the circadian clock in mice. *Neuroscience* 201: 219-230.
5. Jiang, W.G., et al. 2013. Hippocampal CLOCK protein participates in the persistence of depressive-like behavior induced by chronic unpredictable stress. *Psychopharmacology* 227: 79-92.

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.