

# BMAL2 (C-11): sc-365469

## BACKGROUND

BMAL2, also known as ARNTL2 (aryl hydrocarbon receptor nuclear translocator-like 2), MOP9, CLIF or PASD9, is a 636 amino acid protein that localizes to the nucleus and contains one bHLH (basic helix-loop-helix) domain, one PAC (PAS-associated C-terminal) domain and two PAS (PER-ARNT-SIM) domains. Expressed at high levels in placenta and brain and at lower levels in liver, thymus, heart, lung and kidney, BMAL2 functions as a component of the circadian core oscillator, which includes a variety of proteins that work in tandem to activate the transcription of target genes. More specifically, BMAL2, when functioning as a component of the core oscillator, binds to the E-box element (3'-CACGTG-5') of target DNA, thus inducing transcription. Multiple isoforms of BMAL2 exist due to alternative splicing events.

## REFERENCES

- Ikeda, M., et al. 2000. cDNA cloning of a novel bHLH-PAS transcription factor superfamily gene, BMAL2: its mRNA expression, subcellular distribution, and chromosomal localization. *Biochem. Biophys. Res. Commun.* 275: 493-502.
- Maemura, K., et al. 2000. CLIF, a novel cycle-like factor, regulates the circadian oscillation of plasminogen activator inhibitor-1 gene expression. *J. Biol. Chem.* 275: 36847-36851.
- Hogenesch, J.B., et al. 2000. The basic helix-loop-helix-PAS protein MOP9 is a brain-specific heterodimeric partner of circadian and hypoxia factors. *J. Neurosci.* 20: RC83.
- Okano, T., et al. 2001. Chicken pineal clock genes: implication of BMAL2 as a bidirectional regulator in circadian clock oscillation. *Genes Cells* 6: 825-836.
- Schoenhard, J.A., et al. 2002. Alternative splicing yields novel BMAL2 variants: tissue distribution and functional characterization. *Am. J. Physiol., Cell Physiol.* 283: C103-C114.
- Dardente, H. and Cermakian, N. 2007. Molecular circadian rhythms in central and peripheral clocks in mammals. *Chronobiol. Int.* 24: 195-213.
- Onishi, Y., et al. 2008. Rhythmic SAF-A binding underlies circadian transcription of the BMAL1 gene. *Mol. Cell. Biol.* 28: 3477-3488.

## CHROMOSOMAL LOCATION

Genetic locus: ARNTL2 (human) mapping to 12p11.23.

## SOURCE

BMAL2 (C-11) is a mouse monoclonal antibody raised against amino acids 471-636 mapping at the C-terminus of BMAL2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365469 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

BMAL2 (C-11) is recommended for detection of BMAL2 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), 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 BMAL2 siRNA (h): sc-95746, BMAL2 shRNA Plasmid (h): sc-95746-SH and BMAL2 shRNA (h) Lentiviral Particles: sc-95746-V.

BMAL2 (C-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

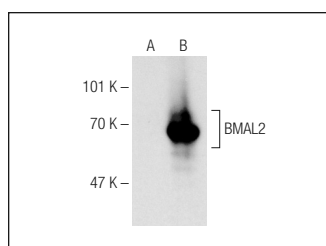
Molecular Weight of BMAL2: 71 kDa.

Positive Controls: JAR cell lysate: sc-2276, MCF7 whole cell lysate: sc-2206 or BMAL2 (h): 293 Lysate: sc-110662.

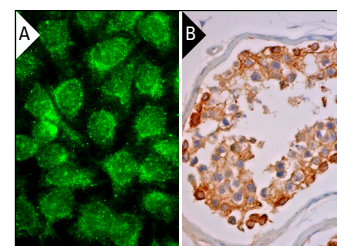
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGλ BP-HRP: sc-516132 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



BMAL2 (C-11): sc-365469. Western blot analysis of BMAL2 expression in non-transfected: sc-110760 (A) and human BMAL2 transfected: sc-110662 (B) 293 whole cell lysates.



MAL2 (C-11): sc-365469. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts (B).

## STORAGE

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