

# BMAL2 (C-7): sc-376287

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: ARNTL2 (human) mapping to 12p11.23; Arntl2 (mouse) mapping to 6 G3.

## SOURCE

BMAL2 (C-7) is a mouse monoclonal antibody raised against amino acids 417-468 mapping near the C-terminus of BMAL2 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-376287 X, 200 µg/0.1 ml.

BMAL2 (C-7) is available conjugated to agarose (sc-376287 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376287 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376287 PE), fluorescein (sc-376287 FITC), Alexa Fluor® 488 (sc-376287 AF488), Alexa Fluor® 546 (sc-376287 AF546), Alexa Fluor® 594 (sc-376287 AF594) or Alexa Fluor® 647 (sc-376287 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376287 AF680) or Alexa Fluor® 790 (sc-376287 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

BMAL2 (C-7) is recommended for detection of BMAL2 of mouse, rat and 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 BMAL2 siRNA (h): sc-95746, BMAL2 siRNA (m): sc-141718, BMAL2 shRNA Plasmid (h): sc-95746-SH, BMAL2 shRNA Plasmid (m): sc-141718-SH, BMAL2 shRNA (h) Lentiviral Particles: sc-95746-V and BMAL2 shRNA (m) Lentiviral Particles: sc-141718-V.

BMAL2 (C-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

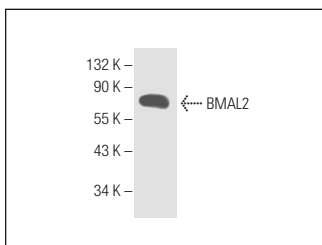
Molecular Weight of BMAL2: 71 kDa.

Positive Controls: JAR cell lysate: sc-2276.

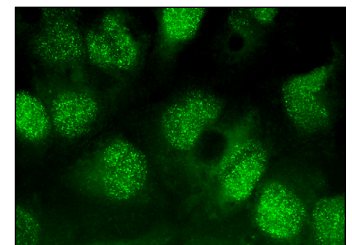
## RECOMMENDED SUPPORT REAGENTS

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



BMAL2 (C-7): sc-376287. Western blot analysis of BMAL2 expression in JAR whole cell lysate.



BMAL2 (C-7): sc-376287. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Lebailly, B., et al. 2014. Linking the circadian rhythm gene Arntl2 to interleukin 21 expression in type 1 diabetes. *Diabetes* 63: 2148-2157.
- Ray, S., et al. 2020. Circadian rhythms in the absence of the clock gene Bmal1. *Science* 367: 800-806.

## RESEARCH USE

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