# SANTA CRUZ BIOTECHNOLOGY, INC.

# 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.

#### **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  $\mu$ g lgG<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  $\mu$ g/0.1 ml.

## **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-IgG $\lambda$  BP-HRP: sc-516132 or m-IgG $\lambda$  BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\lambda$  BP-FITC: sc-516185 or m-IgG $\lambda$  BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\lambda$  BP-HRP: sc-516132 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

#### DATA



 $\mathsf{BMAL2}$  (C-11): sc-365469. Western blot analysis of  $\mathsf{BMAL2}$  expression in non-transfected: sc-110760 (A) and human  $\mathsf{BMAL2}$  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**).

## **SELECT PRODUCT CITATIONS**

 Zou, W., et al. 2024. The circadian gene ARNTL2 promotes nasopharyngeal carcinoma invasiveness and metastasis through suppressing AMOTL2-LATS-YAP pathway. Cell Death Dis. 15: 466.

#### **STORAGE**

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

#### **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.