

BMAL1 (A-6): sc-373955

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 (A-6) is a mouse monoclonal antibody raised against amino acids 441-610 mapping near the C-terminus of BMAL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-373955 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

BMAL1 (A-6) is recommended for detection of BMAL1 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 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 (A-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of BMAL1: 69 kDa.

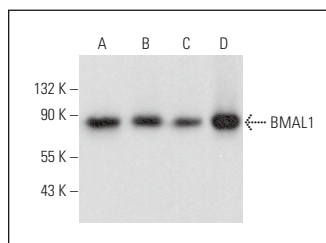
Molecular Weight (observed) of BMAL1: 75-86 kDa.

Positive Controls: BMAL1 (h2): 293T Lysate: sc-115751, A549 cell lysate: sc-2413 or SJRH30 cell lysate: sc-2287.

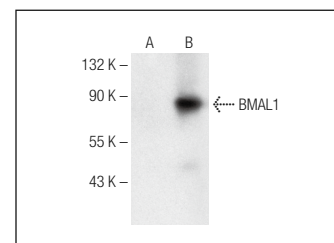
RECOMMENDED SUPPORT REAGENTS

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



BMAL1 (A-6): sc-373955. Western blot analysis of BMAL1 expression in A549 (A), SH-SY5Y (B), SJRH30 (C) and A-673 (D) whole cell lysates.



BMAL1 (A-6): sc-373955. Western blot analysis of BMAL1 expression in non-transfected: sc-117752 (A) and human BMAL1 transfected: sc-115751 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Kim, H.K., et al. 2018. Asymmetric expression level of Clock genes in left vs. right nasal mucosa in humans with and without allergies and in rats: circadian characteristics and possible contribution to nasal cycle. *PLoS ONE* 13: e0194018.
- Jiang, H., et al. 2021. Circadian clock core component BMAL1 dictates cell cycle rhythm of proliferating hepatocytes during liver regeneration. *Am. J. Physiol. Gastrointest. Liver Physiol.* 321: G389-G399.
- Casey, T., et al. 2021. Core circadian clock transcription factor BMAL1 regulates mammary epithelial cell growth, differentiation, and milk component synthesis. *PLoS ONE* 16: e0248199.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **BMAL1 (B-1): sc-365645** for BMAL1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.