BMAL1 (h2): 293T Lysate: sc-115751

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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.

REFERENCES

1. Reyes, H., et al. 1992. Identification of the Ah receptor nuclear translocator protein (Arnt) as a component of the DNA binding form of the Ah receptor. Science 256: 1193-1195.

2. Sogawa, K., et al. 1995. Transcriptional activation domains of the Ah receptor and Ah receptor nuclear translocator. J. Cancer Res. Clin. Oncol. 121: 612-620.

3. Drutel, G., et al. 1996. Cloning and selective expression in brain and kidney of Arnt 2 homologous to the Ah receptor nuclear translocator (Arnt). Biochem. Biophys. Res. Commun. 225: 333-339.

4. Hirose, K., et al. 1996. cDNA cloning and tissue-specific expression of a novel basic helix-loop-helix/PAS factor (Arnt 2) with close sequence similarity to the aryl hydrocarbon receptor nuclear translocator (Arnt). Mol. Cell. Biol. 16: 1706-1713.

5. Ikeda, M., et al. 1997. cDNA cloning and tissue-specific expression of a novel basic helix-loop-helix/PAS protein (BMAL1) and identification of alternatively spliced variants with alternative translation initiation site usage. Biochem. Biophys. Res. Commun. 233: 258-264.

6. Sogawa, K., et al. 1997. Ah receptor, a novel ligand-activated transcription factor. J. Biochem. 122: 1075-1079.

7. Honma, S., et al. 1998. Circadian oscillation of BMAL1, a partner of a mammalian clock gene Clock, in rat suprachiasmatic nucleus. Biochem. Biophys. Res. Commun. 250: 83-87.

CHROMOSOMAL LOCATION

Genetic locus: ARNTL (human) mapping to 11p15.2.

PRODUCT

BMAL1 (h2): 293T Lysate represents a lysate of human BMAL1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

BMAL1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive BMAL1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

BMAL1 (B-1): sc-365645 is recommended as a positive control antibody for Western Blot analysis of enhanced human BMAL1 expression in BMAL1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA
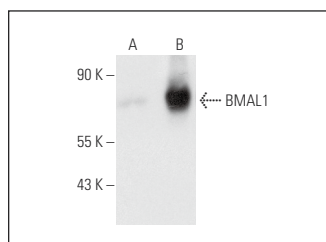
BMAL1 (B-1): sc-365645. Western blot analysis of BMAL1 expression in non-transfected: sc-117752 (**A**) and human BMAL1 transfected: sc-115751 (**B**) 293T whole cell lysates.
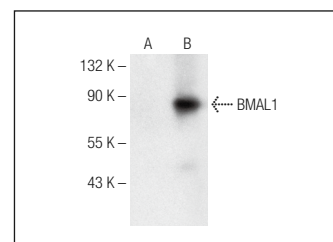
BMAL1 (A-6): sc-373955. Western blot analysis of BMAL1 expression in non-transfected: sc-117752 (**A**) and human BMAL1 transfected: sc-115751 (**B**) 293T whole cell lysates.

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.