



# Arnt 1 (H1beta234): sc-56620

## 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. Arnt 1 (aryl hydrocarbon receptor nuclear translocator), also known as HIF1B, TANGO, bHLHe2, HIF1BETA, HIF-1 $\beta$  or ARNT, is a 789 amino acid nuclear protein that contains a basic helix-loop-helix (bHLH) domain, a PAC (PAS-associated C-terminal) domain and two PAS (PER-ARNT-SIM) domains.

## 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: ARNT (human) mapping to 1q21.3; Arnt (mouse) mapping to 3 F2.1.

## SOURCE

Arnt 1 (H1beta234) is a mouse monoclonal antibody raised against amino acids 496-789 of Arnt 1 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

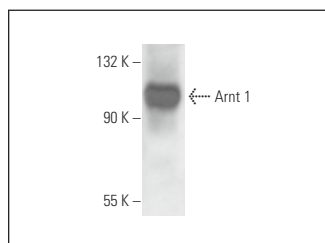
Arnt 1 (H1beta234) is recommended for detection of Arnt 1 of mouse, rat, human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Arnt 1 siRNA (h): sc-29733, Arnt 1 siRNA (m): sc-29734, Arnt 1 siRNA (r): sc-156041, Arnt 1 shRNA Plasmid (h): sc-29733-SH, Arnt 1 shRNA Plasmid (m): sc-29734-SH, Arnt 1 shRNA Plasmid (r): sc-156041-SH, Arnt 1 shRNA (h) Lentiviral Particles: sc-29733-V, Arnt 1 shRNA (m) Lentiviral Particles: sc-29734-V and Arnt 1 shRNA (r) Lentiviral Particles: sc-156041-V.

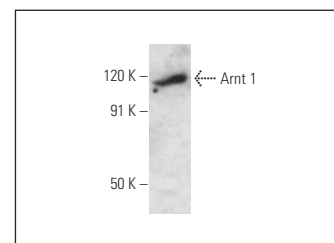
Molecular Weight of Arnt 1: 95 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, WEHI-231 whole cell lysate: sc-2213 or K-562 whole cell lysate: sc-2203.

## DATA



Arnt 1 (H1beta234): sc-56620. Western blot analysis of Arnt 1 expression in K-562 whole cell lysate.



Arnt 1 (H1beta234): sc-56620. Western blot analysis of Arnt 1 expression in HeLa whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Kajta, M., et al. 2017. Depressive-like effect of prenatal exposure to DDT involves global DNA hypomethylation and impairment of GPER1/ESR1 protein levels but not ESR2 and AhR/Arnt signaling. *J. Steroid Biochem. Mol. Biol.* 171: 94-109.

## 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](http://www.scbt.com) for detailed protocols and support products.