

# Arnt 1 (G-3): sc-17812

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: ARNT (human) mapping to 1q21.3.

## SOURCE

Arnt 1 (G-3) is a mouse monoclonal antibody raised against amino acids 520-692 mapping near the C-terminus of Arnt 1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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-17812 X, 200  $\mu$ g/0.1 ml.

## 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.

## APPLICATIONS

Arnt 1 (G-3) is recommended for detection of Arnt 1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Arnt 1 (G-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

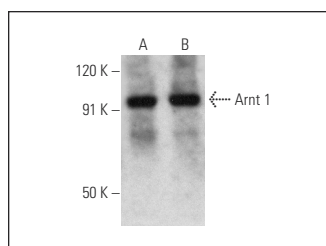
Molecular Weight of Arnt 1: 95 kDa.

Positive Controls: HeLa + CoCl<sub>2</sub> cell lysate: sc-24679, MDA-MB-231 cell lysate: sc-2232 or Hep G2 cell lysate: sc-2227.

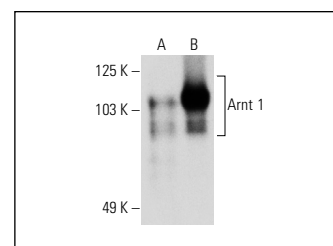
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



Arnt 1 (G-3): sc-17812. Western blot analysis of Arnt 1 expression in Hep G2 (A) and MDA-MB-231 (B) whole cell lysates.



Arnt 1 (G-3): sc-17812. Western blot analysis of Arnt 1 expression in untreated (A) and CoCl<sub>2</sub> treated (B) HeLa whole cell lysates.

## SELECT PRODUCT CITATIONS

- Sciullo, E.M., et al. 2008. Initial and extended inflammatory messages of the nongenomic signaling pathway of the TCDD-activated Ah Receptor in U937 macrophages. *Arch. Biochem. Biophys.* 480: 143-155.
- Filiano, A.J., et al. 2008. Transglutaminase 2 protects against ischemic insult, interacts with HIF1 $\beta$ , and attenuates HIF1 signaling. *FASEB J.* 22: 2662-2675.
- Sciullo, E.M., et al. 2009. Characterization of the pattern of the nongenomic signaling pathway through which TCDD-induces early inflammatory responses in U937 human macrophages. *Chemosphere* 74: 1531-1537.
- Okumura, F., et al. 2016. Parallel regulation of von Hippel-Lindau disease by pVHL-mediated degradation of B-Myb and hypoxia-inducible factor  $\alpha$ . *Mol. Cell. Biol.* 36: 1803-1817.
- Vyhldalová, B., et al. 2020. Antimigraine drug avitriptan is a ligand and agonist of human aryl hydrocarbon receptor that induces CYP1A1 in hepatic and intestinal cells. *Int. J. Mol. Sci.* 21: E2799.
- Nakano, N., et al. 2020. Dissociation of the AhR-ARNT complex by TGF- $\beta$ -Smad signaling represses CYP1A1 gene expression and inhibits benzo[a]pyrene-mediated cytotoxicity. *J. Biol. Chem.* 295: 9033-9051.
- Grycová, A., et al. 2022. Targeting the aryl hydrocarbon receptor with microbial metabolite mimics alleviates experimental colitis in mice. *J. Med. Chem.* 65: 6859-6868.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.