

Arnt 1 (H-172): sc-5580

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 β 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 2 PAS (PER-ARNT-SIM) domains.

CHROMOSOMAL LOCATION

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

SOURCE

Arnt 1 (H-172) is a rabbit polyclonal antibody raised against amino acids 520-692 of Arnt 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG 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-5580 X, 200 μ g/0.1 ml.

APPLICATIONS

Arnt 1 (H-172) is recommended for detection of Arnt 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Arnt 1 (H-172) is also recommended for detection of Arnt 1 in additional species, including equine, canine, bovine and porcine.

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

Arnt 1 (H-172) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Arnt 1: 95 kDa.

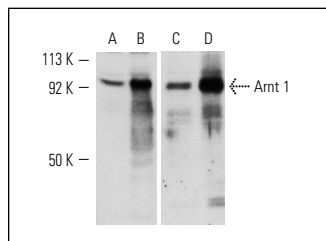
RESEARCH USE

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

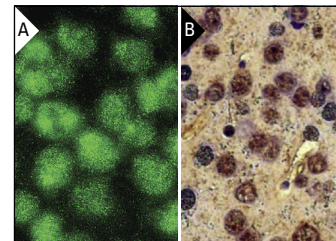
STORAGE

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

DATA



Western blot analysis of Arnt 1 expression in untreated (A, C) and CCl₄ treated HeLa (B, D) whole cell lysates. Antibodies tested include Arnt 1 (N-19): sc-8077 (A, B) and Arnt 1 (H-172): sc-5580 (C, D).



Arnt 1 (H-172): sc-5580. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain showing nuclear localization (B).

SELECT PRODUCT CITATIONS

- Tojo, M., et al. 2002. The aryl hydrocarbon receptor nuclear transporter is modulated by the SUMO-1 conjugation system. *J. Biol. Chem.* 277: 46576-46585.
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- Li, Y., et al. 2010. The aryl hydrocarbon receptor nuclear translocator-interacting protein 2 suppresses the estrogen receptor signaling via an Arnt-dependent mechanism. *Arch. Biochem. Biophys.* 502: 121-129.
- Chen, H., et al. 2010. Hypoxia and nickel inhibit histone demethylase JMJD1A and repress Spry2 expression in human bronchial epithelial BEAS-2B cells. *Carcinogenesis* 31: 2136-2144.
- Macpherson, L., et al. 2010. Inhibition of aryl hydrocarbon receptor-dependent transcription by resveratrol or kaempferol is independent of estrogen receptor α expression in human breast cancer cells. *Cancer Lett.* 299: 119-129.
- Kang, H.J., et al. 2011. Detoxification: a novel function of BRCA1 in tumor suppression? *Toxicol. Sci.* 122: 26-37.
- Kubo, K., et al. 2011. Expression of aryl hydrocarbon receptor and aryl hydrocarbon receptor nuclear translocators in human adenoid tissue. *Auris Nasus Larynx* 38: 352-355.
- Swedenborg, E., et al. 2012. The aryl hydrocarbon receptor ligands 2,3,7,8-tetrachlorodibenzo-p-dioxin and 3-methylcholanthrene regulate distinct genetic networks. *Mol. Cell. Endocrinol.* 362: 39-47.

MONOS
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Try **Arnt 1 (A-3): sc-17811** or **Arnt 1 (H-10): sc-55526**, our highly recommended monoclonal alternatives to Arnt 1 (H-172).