

Arnt 2 (M-165): sc-5581

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 2 (aryl hydrocarbon receptor nuclear translocator 2), also known as Hif-2b or bHLHe1, is a 712 amino acid nuclear protein that is exclusively expressed in adult brain and kidney. Containing a basic helix-loop-helix (bHLH) domain, a PAC (PAS-associated C-terminal) domain and two PAS (PER-ARNT-SIM) domains, Arnt 2 specifically recognizes the xenobiotic response element (XRE).

CHROMOSOMAL LOCATION

Genetic locus: ARNT2 (human) mapping to 15q25.1; Arnt2 (mouse) mapping to 7 D3.

SOURCE

Arnt 2 (M-165) is a rabbit polyclonal antibody raised against amino acids 457-622 of Arnt 2 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-5581 X, 200 µg/0.1 ml.

APPLICATIONS

Arnt 2 (M-165) is recommended for detection of Arnt 2 of mouse, rat, human and zebrafish origin by Western Blotting (starting dilution 1:200, 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), 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 2 (M-165) is also recommended for detection of Arnt 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Arnt 2 siRNA (h): sc-29735, Arnt 2 siRNA (m): sc-29736, Arnt 2 shRNA Plasmid (h): sc-29735-SH, Arnt 2 shRNA Plasmid (m): sc-29736-SH, Arnt 2 shRNA (h) Lentiviral Particles: sc-29735-V and Arnt 2 shRNA (m) Lentiviral Particles: sc-29736-V.

Arnt 2 (M-165) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

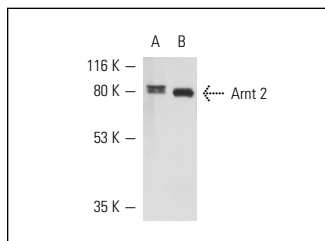
Molecular Weight of Arnt 2: 90 kDa.

Positive Controls: mouse brain extract: sc-2253.

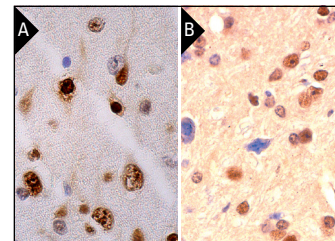
STORAGE

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

DATA



Arnt 2 (M-165): sc-5581. Western blot analysis of Arnt 2 expression in WEHI-231 (A) whole cell lysate and mouse brain (B) extract.



Arnt 2 (M-165): sc-5581. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing nuclear staining of neuronal and glial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human malignant glioma tissue showing nuclear staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Freeburg, P.B., et al. 2004. Divergent expression patterns for hypoxia-inducible factor-1β and aryl hydrocarbon receptor nuclear transporter-2 in developing kidney. *J. Am. Soc. Nephrol.* 15: 2569-2578.
- Ooe, N., et al. 2009. Characterization of functional heterodimer partners in brain for a BHLH-PAS factor NXF. *Biochim. Biophys. Acta* 1789: 192-197.
- Yamanaka, T., et al. 2010. Mutant huntingtin fragment selectively suppresses Bm-2 POU domain transcription factor to mediate hypothalamic cell dysfunction. *Hum. Mol. Genet.* 19: 2099-2112.
- 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.
- Weir, L., et al. 2011. Hypoxia-mediated control of HIF/ARNT machinery in epidermal keratinocytes. *Biochim. Biophys. Acta* 1813: 60-72.

RESEARCH USE

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

PROTOCOLS

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



Try **Arnt 2 (B-11): sc-393683** or **Arnt 2 (B-5): sc-393613**, our highly recommended monoclonal alternatives to Arnt 2 (M-165).