

Arnt 2 (B-5): sc-393613

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 XRE element.

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 ARNT2 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 (Arnt2) 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.

CHROMOSOMAL LOCATION

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

SOURCE

Arnt 2 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 679-712 at the C-terminus of Arnt 2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-393613 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-393613 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Arnt 2 (B-5) is recommended for detection of Arnt 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Arnt 2 (B-5) is also recommended for detection of Arnt 2 in additional species, including equine, canine, bovine, porcine and avian.

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 (B-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

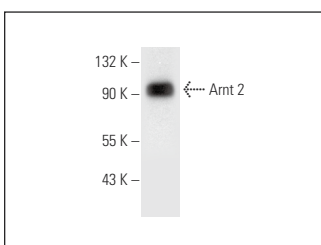
Molecular Weight of Arnt 2: 90 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 2 (B-5): sc-393613. Western blot analysis of Arnt 2 expression in WEHI-231 whole cell lysate.

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.