SANTA CRUZ BIOTECHNOLOGY, INC.

Arnt 2 (B-11): sc-393683

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

Arnt 2 (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 683-712 at the C-terminus of Arnt 2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-393683 X, 200 µg/0.1 ml.

Arnt 2 (B-11) is available conjugated to agarose (sc-393683 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393683 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393683 PE), fluorescein (sc-393683 FITC), Alexa Fluor® 488 (sc-393683 AF488), Alexa Fluor® 546 (sc-393683 AF546), Alexa Fluor® 594 (sc-393683 AF594) or Alexa Fluor® 647 (sc-393683 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393683 AF680) or Alexa Fluor® 790 (sc-393683 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393683 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Arnt 2 (B-11) 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-11) is also recommended for detection of Arnt 2 in additional species, including equine, canine, bovine, porcine and avian.

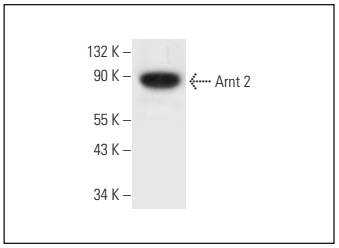
Suitable for use as control antibody for Arnt 2 siRNA (h): sc-29735, Arnt 2 siRNA (m): sc-29736, Arnt 2 shRNA Plasmid (h): sc-29735-SH, Arnt 2 shRNA Plasmid (m): sc-29736-SH, Arnt 2 shRNA (h) Lentiviral Particles: sc-29735-V and Arnt 2 shRNA (m) Lentiviral Particles: sc-29736-V.

Arnt 2 (B-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

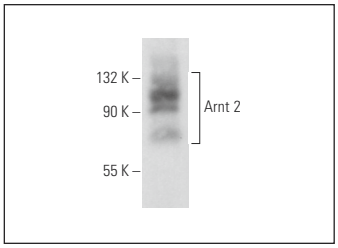
Molecular Weight of Arnt 2: 90 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213 or mouse brain extract: sc-2253.

DATA



Arnt 2 (B-11): sc-393683. Western blot analysis of Arnt 2 expression in WEHI-231 whole cell lysate.



Arnt 2 (B-11): sc-393683. Western blot analysis of Arnt 2 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Fortenbery, G.W., et al. 2018. Hypoxic stabilization of mRNA is HIF-independent but requires mtROS. Cell. Mol. Biol. Lett. 23: 48.
2. Brigidi, G.S., et al. 2019. Genomic decoding of neuronal depolarization by stimulus-specific NPAS4 heterodimers. Cell 179: 373-391.e27.

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.

PROTOCOLS

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