

Ah Receptor (B-11): sc-74571

BACKGROUND

2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) is the prototype for a family of toxic halogenated aromatic compounds that are thought to cause adverse reproductive, immunologic and metabolic effects. Many biological responses to TCDD are mediated through ligand binding to the aromatic hydrocarbon (Ah) receptor, also known as AhR. Ah Receptor is a ligand dependent transcription factor that interacts with specific DNA sequences, termed xenobiotic responsive elements (XREs), and that lies upstream of TCDD-inducible genes. Upon binding to the ligand, Ah Receptor binds to the Ah Receptor nuclear translocator (Arnt), and the complex is translocated from the cytoplasm to the nucleus. Arnt is required for Ah Receptor to bind to XRE. Ah Receptor and Arnt are members of a family of transcription factors that contain a basic helix-loop-helix motif and a common "PAS" motif.

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. Okey, A.B., et al. 1994. The Ah Receptor: mediator of the toxicity of 2,3,7,8-tetrachlorobenzo-p-dioxin (TCDD) and related compounds. *Toxicol. Lett.* 70: 1-22.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: AHR (human) mapping to 7p21.1; Ahr (mouse) mapping to 12 A3.

SOURCE

Ah Receptor (B-11) is a mouse monoclonal antibody raised against amino acids 637-848 of Ah Receptor of human 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-74571 X, 200 µg/0.1 ml.

Ah Receptor (B-11) is available conjugated to agarose (sc-74571 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74571 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74571 PE), fluorescein (sc-74571 FITC), Alexa Fluor® 488 (sc-74571 AF488), Alexa Fluor® 546 (sc-74571 AF546), Alexa Fluor® 594 (sc-74571 AF594) or Alexa Fluor® 647 (sc-74571 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74571 AF680) or Alexa Fluor® 790 (sc-74571 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

Ah Receptor (B-11) is recommended for detection of Ah Receptor 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), 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).

Suitable for use as control antibody for Ah Receptor siRNA (h): sc-29654, Ah Receptor siRNA (m): sc-29655, Ah Receptor siRNA (r): sc-72178, Ah Receptor shRNA Plasmid (h): sc-29654-SH, Ah Receptor shRNA Plasmid (m): sc-29655-SH, Ah Receptor shRNA Plasmid (r): sc-72178-SH, Ah Receptor shRNA (h) Lentiviral Particles: sc-29654-V, Ah Receptor shRNA (m) Lentiviral Particles: sc-29655-V and Ah Receptor shRNA (r) Lentiviral Particles: sc-72178-V.

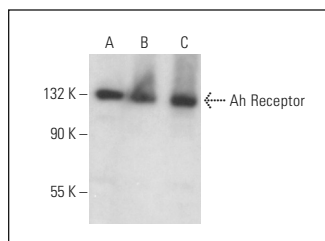
Ah Receptor (B-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Ah Receptor: 96 kDa.

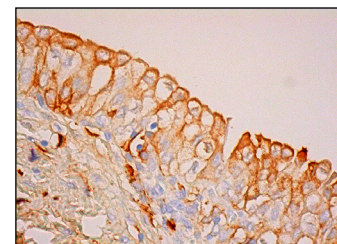
Molecular Weight (observed) of Ah Receptor: 122 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, PC-3 cell lysate: sc-2220 or A-431 whole cell lysate: sc-2201.

DATA



Ah Receptor (B-11): sc-74571. Western blot analysis of Ah Receptor expression in PC-3 (A), MCF7 (B) and A-431 (C) whole cell lysates.



Ah Receptor (B-11): sc-74571. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Fu, J., et al. 2011. Regulation of estrogen sulfotransferase expression by confluence of MCF10A breast epithelial cells: role of the aryl hydrocarbon receptor. *J. Pharmacol. Exp. Ther.* 339: 597-606.
2. Hsu, H.L., et al. 2021. Aryl hydrocarbon receptor defect attenuates mitogen-activated signaling through leucine-rich repeats and immunoglobulin-like domains 1 (LRIG1)-dependent EGFR degradation. *Int. J. Mol. Sci.* 22: 9988.
3. Kathania, M., et al. 2022. Pak2-mediated phosphorylation promotes RORγt ubiquitination and inhibits colonic inflammation. *Cell Rep.* 40: 111345.

STORAGE

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