SANTA CRUZ BIOTECHNOLOGY, INC.

Ah Receptor (H-211): sc-5579

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 R eceptor 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.

CHROMOSOMAL LOCATION

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

SOURCE

Ah Receptor (H-211) is a rabbit polyclonal antibody raised against amino acids 637-848 of Ah Receptor 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-5579 X, 200 µg/0.1 ml.

APPLICATIONS

Ah Receptor (H-211) is recommended for detection of Ah Receptor of human and, to a lesser extent, mouse and rat 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).

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

Ah Receptor (H-211) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

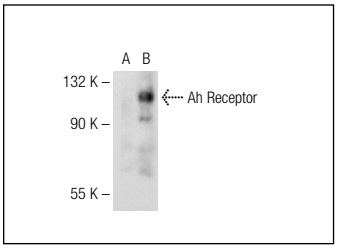
Molecular Weight (observed) of Ah Receptor: 122 kDa.

Positive Controls: PC-3 cell lysate: sc-2220 or HeLa whole cell lysate: sc-2200.

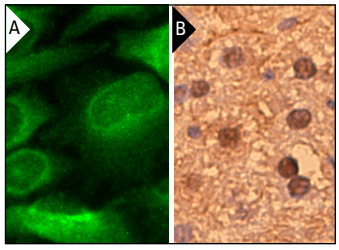
STORAGE

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

DATA



Ah Receptor (H-211): sc-5579. Western blot analysis of Ah Receptor expression in non-transfected: sc-110760 (**A**) and mouse Ah Receptor transfected: sc-178266 (**B**) 293 whole cell lysates.



Ah Receptor (H-211): sc-5579. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Fukuda, I., et al. 2004. A new southwestern chemistry-based ELISA for detection of aryl hydrocarbon receptor transformation: application to the screening of its receptor agonists and antagonists. J. Immunol. Methods 287: 187-201.
2. Aung, H.H., et al. 2011. Comparative gene responses to collected ambient particles *in vitro:* endothelial responses. Physiol. Genomics 43: 917-929.
3. 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.
4. Novotna, A., et al. 2011. Construction and characterization of hepatocyte nuclear factor HNF4α1 over-expressing cell line derived from human hepatoma HepG2 cells. Eur. J. Pharmacol. 669: 45-50.
5. Oleaga, C., et al. 2012. CYP1A1 is overexpressed upon incubation of breast cancer cells with a polyphenolic cocoa extract. Eur. J. Nutr. 51: 465-476.
6. Jing, H., et al. 2012. MG132 alleviates liver injury induced by intestinal ischemia/reperfusion in rats: involvement of the AhR and NFκB pathways. J. Surg. Res. 176: 63-73.
7. 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.

RESEARCH USE

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