# SANTA CRUZ BIOTECHNOLOGY, INC.

# Ah Receptor (C-4): sc-74572



## 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.

## **CHROMOSOMAL LOCATION**

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

# SOURCE

Ah Receptor (C-4) is a mouse monoclonal antibody raised against amino acids 637-848 of Ah Receptor of human origin.

# PRODUCT

Each vial contains 200  $\mu$ g lgG<sub>2b</sub> 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-74572 X, 200  $\mu$ g/0.1 ml.

#### **RESEARCH USE**

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

#### **APPLICATIONS**

Ah Receptor (C-4) 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 shRNA Plasmid (h): sc-29654-SH, Ah Receptor shRNA (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 (C-4) 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, A-431 whole cell lysate: sc-2201 or MDA-MB-435S whole cell lysate: sc-364184.

#### **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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

#### DATA





Ah Receptor (C-4): sc-74572. Western blot analysis of Ah Receptor expression in MDA-MB-435S  $({\rm A}),$  A-431  $({\rm B})$  and PC-3  $({\rm C})$  whole cell lysates.

Ah Receptor (C-4): sc-74572. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells.

#### SELECT PRODUCT CITATIONS

- Panchanathan, R., et al. 2015. Activation of p53 in human and murine cells by DNA-damaging agents differentially regulates aryl hydrocarbon receptor levels. Int. J. Toxicol. 34: 242-249.
- 2. Chowdhury, M.M.I., et al. 2021. TLR4 may be a novel indole-3-acetic acid receptor that is implicated in the regulation of CYP1A1 and TNF $\alpha$  expression depending on the culture stage of Caco-2 cells. Biosci. Biotechnol. Biochem. 85: 2011-2021.

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

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



See **Ah Receptor (A-3): sc-133088** for Ah Receptor antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.