

Ah Receptor (A-2): sc-398877

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 (mouse) mapping to 12 A3.

SOURCE

Ah Receptor (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 767-800 at the C-terminus of Ah Receptor of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-398877 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-398877 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Ah Receptor (A-2) is recommended for detection of Ah Receptor of mouse and rat 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 (m): sc-29655, Ah Receptor siRNA (r): sc-72178, Ah Receptor shRNA Plasmid (m): sc-29655-SH, Ah Receptor shRNA Plasmid (r): sc-72178-SH, Ah Receptor shRNA (m) Lentiviral Particles: sc-29655-V and Ah Receptor shRNA (r) Lentiviral Particles: sc-72178-V.

Ah Receptor (A-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

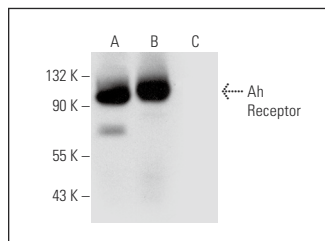
Molecular Weight (observed) of Ah Receptor: 122 kDa.

Positive Controls: c4 whole cell lysate: sc-364186 or NIH/3T3 whole cell lysate: sc-2210.

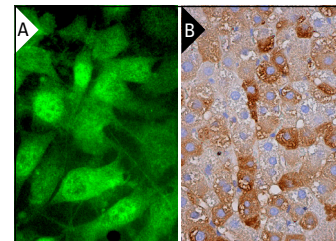
STORAGE

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

DATA



Ah Receptor (A-2): sc-398877. Western blot analysis of Ah Receptor expression in c4 (A), NIH/3T3 (B) and MCF7 (C) whole cell lysates. Note lack of reactivity with human Ah Receptor in lane C.



Ah Receptor (A-2): sc-398877. Immunofluorescence staining of formalin-fixed NIH/3T3 cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat liver tissue showing cytoplasmic staining of hepatocytes (B).

SELECT PRODUCT CITATIONS

1. Amenya, H.Z., et al. 2016. Dioxin induces Ahr-dependent robust DNA demethylation of the CYP1A1 promoter via Tdg in the mouse liver. *Sci. Rep.* 6: 34989.
2. Sun, C.Y., et al. 2021. Indoxyl sulfate caused behavioral abnormality and neurodegeneration in mice with unilateral nephrectomy. *Aging* 13: 6681-6701.
3. Kimura, E., et al. 2021. Neurons expressing the aryl hydrocarbon receptor in the locus coeruleus and island of Calleja major are novel targets of dioxin in the mouse brain. *Histochem. Cell Biol.* 156: 147-163.
4. Huang, T., et al. 2022. Adipocyte-derived kynurenine promotes obesity and Insulin resistance by activating the AhR/STAT3/IL-6 signaling. *Nat. Commun.* 13: 3489.

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.



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