

Ah Receptor (m): 293 Lysate: sc-178266

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. Bacsi, S.G., et al. 1996. Functional characterization of DNA-binding domains of the subunits of the heterodimeric aryl hydrocarbon receptor complex imputing novel and canonical basic helix-loop-helix protein-DNA interactions. *J. Biol. Chem.* 271: 8843-8850.
4. 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.
5. Eguchi, H., et al. 1997. A nuclear localization signal of human aryl hydrocarbon receptor nuclear translocator/hypoxia-inducible factor 1 β is a novel bipartite type recognized by the two components of nuclear pore-targeting complex. *J. Biol. Chem.* 272: 17640-17647.
6. Sun, W., et al. 1997. A mutation in the aryl hydrocarbon receptor (AhR) in a cultured mammalian cell line identifies a novel region of AhR that affects DNA binding. *J. Biol. Chem.* 272: 31845-31854.
7. Hahn, M.E., et al. 1997. Molecular evolution of two vertebrate aryl hydrocarbon (dioxin) receptors (AHR1 and AHR2) and the PAS family. *Proc. Natl Acad. Sci. USA* 94: 13743-13748.
8. Grassman, J.A., et al. 1998. Animal models of human response to dioxins. *Environ. Health Perspect.* 2: 761-775.

CHROMOSOMAL LOCATION

Genetic locus: Ahr (mouse) mapping to 12 A3.

PRODUCT

Ah Receptor (m): 293 Lysate represents a lysate of mouse Ah Receptor transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

Ah Receptor (m): 293 Lysate is suitable as a Western Blotting positive control for mouse reactive Ah Receptor antibodies. Recommended use: 10-20 μ l per lane.

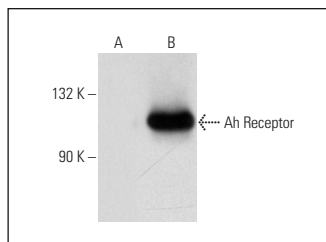
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

Ah Receptor (A-3): sc-133088 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Ah Receptor expression in Ah Receptor transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

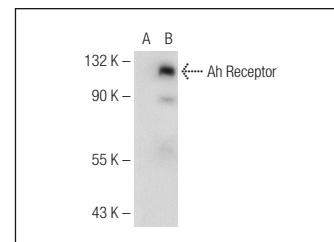
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Ah Receptor (A-3): sc-133088. 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 (B-11): sc-74571. 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.