



AHR, Aryl Hydrocarbon Receptor polyclonal antibody

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Box 1 | Basic Info

Cat. No.	ABP-PAB-10473
Animal ID	RB0055-0056
Host	Rabbit
Reactivity	Human
Format	Purified
Accession number	NM_001621
Amount	100 µg

Alternative Name(s):

N/A

References:

1. Hayashibara T, Yamada Y, Mori N, Harasawa H, Sugahara K, Miyanishi T, Kamihira S, Tomonaga M: Possible involvement of aryl hydrocarbon receptor (AhR) in adult T-cell leukemia (ATL) leukemogenesis: constitutive activation of AhR in ATL. *Biochem. Biophys. Res. Commun.* 300(1): 128-134 (2003).
2. Harper PA, Wong JY, Lam MS, Okey AB: Polymorphisms in the human AH receptor. *Chem. Biol. Interact.* 141(1-2): 161-187 (2002). Review.
3. Puga A, Xia Y, Elferink C: Role of the aryl hydrocarbon receptor in cell cycle regulation. *Chem. Biol. Interact.* 141(1-2): 117-130 (2002). Review.
4. Wang S, Hankinson O: Functional involvement of the Brahma/SWI2-related gene 1 protein in cytochrome P4501A1 transcription mediated by the aryl hydrocarbon receptor complex. *J. Biol. Chem.* 277(14): 11821-11827 (2002).
5. Khorram O, Garthwaite M, Golos T, Karchner SI, Franks DG, Powell WH, Hahn ME: Regulatory interactions among three members of the vertebrate aryl hydrocarbon receptor family: AHR repressor, AHR1, and AHR2. *J. Biol. Chem.* 277(9): 6949-6959 (2002).
6. Hogenesch JB, Chan WK, Jackiw VH, Brown RC, Gu YZ, Pray-Grant M, Perdew GH, Bradfield CA: Characterization of a subset of the basic-helix-loop-helix-PAS superfamily that interacts with components of the dioxin signaling pathway. *J. Biol. Chem.* 272: 8581-8593 (1997).
7. Hoffman E C, Reyes H, Chu FF, Sander F, Conley LH, Brooks BA, Hankinson O: Cloning of a factor required for activity of the Ah (dioxin) receptor. *Science* 252: 954-958 (1991).

Cytosolic dioxin receptor, also referred to as Ah receptor, translocates to the nucleus upon binding of ligand. Ligands include dioxin and polycyclic aromatic hydrocarbons (PAH). The complex then initiates transcription of a battery of genes involved in the activation of PAH procarcinogens. Ah receptor is a heterodimer consisting of the ligand-binding aryl hydrocarbon receptor (AHR) and the 87kDa ARNT subunit. AHR is structurally related to HIF1-alpha and MOP2. Even though, these three proteins have different expression profiles, but they all share ARNT as a common dimeric partner. The heterodimerization is dependent on the bHLH and PAS domains of AHR. There is a substantial polymorphisms that regulates the phenotype of AHR-mediated responses among different ethnic groups. Constitutive activation of AHR may also play a role in adult T-cell leukemia (ATL) development. DNA damage and cell cycle arrest induced by 2-(4-amino-3-methylphenyl)-5-fluorobenzothiazole (5F 203, NSC 703786) is attenuated in aryl hydrocarbon receptor deficient MCF-7 cells. Phylogenetic analysis shows that AHR1, AHR, and AHR2 are all members of the AHR gene family and descended from a single invertebrate AHR.

Buffers

Purified rabbit polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column and eluted out with both high and low pH buffers and neutralized immediately after elution then followed by dialysis against PBS.

Immunogen

KLH conjugated synthetic peptide comprised of amino acids 101 - 118 [CRAANFREGLNLQEGEFL] of the human aryl hydrocarbon receptor (AHR) protein.

Application

Tested by peptide-specific ELISA (1:1,000).

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C. Avoid repeated freeze-thaw cycles.