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Anti-AHR Antibody
Catalog # ABO11088

Specification

Anti-AHR Antibody - Product Information

Application	**WB**
Primary Accession	P35869
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Aryl hydrocarbon receptor(AHR) detection. Tested with WB in Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-AHR Antibody - Additional Information

Gene ID 196

Other Names
Aryl hydrocarbon receptor, Ah receptor, AhR, Class E basic helix-loop-helix protein 76, bHLHe76, AHR, BHLHE76

Calculated MW
96147 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization
Cytoplasm. Nucleus. Initially cytoplasmic; upon binding with ligand and interaction with a HSP90, it translocates to the nucleus.

Tissue Specificity
Expressed in all tissues tested including blood, brain, heart, kidney, liver, lung, pancreas and skeletal muscle. .

Protein Name
Aryl hydrocarbon receptor

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human AHR (832-848aa HPSEARPFPDLTSSGFL).

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Sequence Similarities
Contains 1 bHLH (basic helix-loop-helix) domain.

Anti-AHR Antibody - Protein Information

Name AHR {ECO:0000303|PubMed:8393992, ECO:0000312|HGNC:HGNC:348}

Function
Ligand-activated transcription factor that enables cells to adapt to changing conditions by sensing compounds from the environment, diet, microbiome and cellular metabolism, and which plays important roles in development, immunity and cancer (PubMed:23275542, PubMed:30373764, PubMed:32818467, PubMed:7961644). Upon ligand binding, translocates into the nucleus, where it heterodimerizes with ARNT and induces transcription by binding to xenobiotic response elements (XRE) (PubMed:23275542, PubMed:30373764, PubMed:7961644). Regulates a variety of biological processes, including angiogenesis, hematopoiesis, drug and lipid metabolism, cell motility and immune modulation (PubMed:12213388). Xenobiotics can act as ligands: upon xenobiotic- binding, activates the expression of multiple phase I and II xenobiotic chemical metabolizing enzyme genes (such as the CYP1A1 gene) (PubMed:7961644, PubMed:33193710). Mediates biochemical and toxic effects of halogenated aromatic hydrocarbons (PubMed:34521881, PubMed:7961644). Next to xenobiotics, natural ligands derived from plants, microbiota, and endogenous metabolism are potent AHR agonists (PubMed:18076143). Tryptophan (Trp) derivatives constitute an important class of endogenous AHR ligands (PubMed:32818467, PubMed:32866000). Acts as a negative regulator of anti-tumor immunity: indoles and kynurenic acid generated by Trp catabolism act as ligand and activate AHR, thereby promoting AHR-driven cancer cell motility and suppressing adaptive immunity (PubMed:32818467). Regulates the circadian clock by inhibiting the basal and circadian expression of the core circadian component PER1 (PubMed:28602820). Inhibits PER1 by repressing the CLOCK-BMAL1 heterodimer mediated transcriptional activation of PER1 (PubMed:28602820). The

heterodimer ARNT:AHR binds to core DNA sequence 5'-TGCGTG-3' within the dioxin response element (DRE) of target gene promoters and activates their transcription (PubMed:28602820).

Cellular Location
Cytoplasm. Nucleus. Note=Initially cytoplasmic; upon binding with ligand and interaction with a HSP90, it translocates to the nucleus.

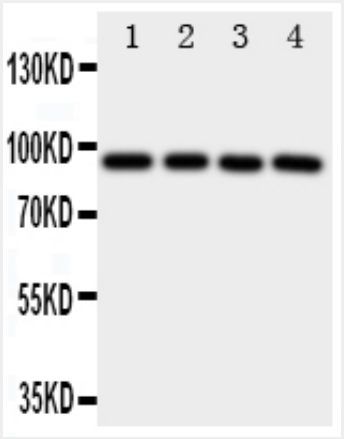
Tissue Location
Expressed in all tissues tested including blood, brain, heart, kidney, liver, lung, pancreas and skeletal muscle Expressed in retinal photoreceptors (PubMed:29726989)

Anti-AHR Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-AHR Antibody - Images



Anti-AHR antibody, ABO11088, Western blottingAll lanes: Anti AHR (ABO11088) at 0.5ug/mlLane 1: PANC Whole Cell Lysate at 40ugLane 2: HELA Whole Cell Lysate at 40ugLane 3: MCF-7 Whole Cell Lysate at 40ugLane 4: HT1080 Whole Cell Lysate at 40ugPredicted bind size: 96KDObserved bind size: 96KD

Anti-AHR Antibody - Background

AHR(aryl hydrocarbon receptor), also called bHLHe76,Â is a member of the family ofÂ basic helix-loop-helixÂ transcription factors.Â AhR is a cytosolic transcription factor that is normally inactive, bound to severalÂ co-chaperones. The AHR gene is mapped on 7p21.1. Estrogenic actions ofÂ AHRÂ agonists were detected in wildtype ovariectomized mouse uteri, but were absent inÂ AhrÂ -/- or Er-alpha -/- ovariectomized mice. Complex assembly and ubiquitin ligase activity of CUL4B(AHR) in vitro and in vivo are dependent on theÂ AHRÂ ligand. In the CUL4B(AHR) complex,

ligand-activatedÂ AHRÂ acts as a substrate-specific adaptor component that targets sex steroid receptors for degradation.Â Cd4-positive cells from mice lackingÂ AhrÂ developed Th17 responses but failed to produce Il22 and did not show enhanced Th17 development. Activation ofÂ AhrÂ during induction of EAE accelerated disease onset and increased pathology in wildtype mice, but not inÂ AhrÂ -/- mice. The TDO-AHRÂ pathway is active in human brain tumors and is associated with malignant progression and poor survival.Â AhrÂ activity within ROR-gamma-t-positive ILC could be induced by dietary ligands such as those contained in vegetables of the family Brassicaceae.