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Anti-AhR Rabbit Monoclonal Antibody

Catalog # ABO13277

Product Information

Application	WB, IF, ICC
Primary Accession	P35869
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-AhR Rabbit Monoclonal Antibody . Tested in WB, ICC/IF applications. This antibody reacts with Human.

Additional Information

Gene ID	196
Other Names	Aryl hydrocarbon receptor, Ah receptor, AhR, Class E basic helix-loop-helix protein 76, bHLHe76, AHR {ECO:0000303|PubMed:8393992, ECO:0000312|HGNC:HGNC:348}
Calculated MW	96147
Application Details	WB 1:500-1:2000 ICC/IF 1:50-1:200
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..
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: AOHI-1
Immunogen	A synthesized peptide derived from human AhR
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

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 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)

Images

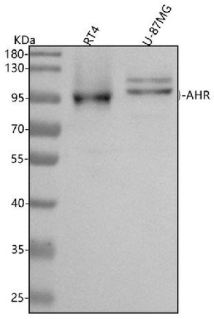


Figure 1. Western blot analysis of AhR using anti-AhR antibody (M00225).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human RT4 whole cell lysates,
Lane 2: human U-87MG whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes.
Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-AhR antigen affinity purified monoclonal antibody (Catalog # M00225) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200

system. A specific band was detected for AhR at approximately 96,105 kDa. The expected band size for AhR is at 96 kDa.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.