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Anti-AhR Rabbit Monoclonal Antibody
Catalog # ABO13277

Specification

Anti-AhR Rabbit Monoclonal Antibody - 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.

Anti-AhR Rabbit Monoclonal Antibody - 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 MW KDa

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..

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.

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.

Anti-AhR Rabbit Monoclonal 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)

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Anti-AhR Rabbit Monoclonal 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 Rabbit Monoclonal Antibody - Images

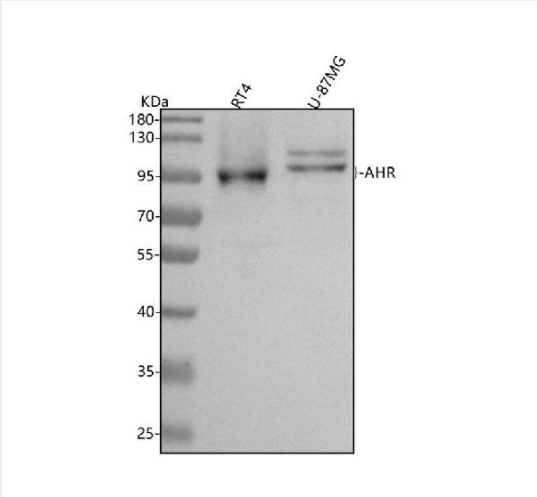

Figure 1. Western blot analysis of AhR using anti-AhR antibody (M00225).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human RT4 whole cell 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.