

**AHR Antibody (Center) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP5533c**

**Specification**

**AHR Antibody (Center) Blocking peptide - Product Information**

Primary Accession  
Other Accession

[P35869](#)  
[NP\\_001612.1](#)

**AHR Antibody (Center) Blocking peptide - Additional Information**

**Gene ID 196**

**Other Names**

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

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

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

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**AHR Antibody (Center) Blocking peptide - 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:<a href="http://www.uniprot.org/citations/23275542" target="\_blank">23275542</a>, PubMed:<a href="http://www.uniprot.org/citations/30373764" target="\_blank">30373764</a>, PubMed:<a href="http://www.uniprot.org/citations/32818467" target="\_blank">32818467</a>, PubMed:<a href="http://www.uniprot.org/citations/7961644" target="\_blank">7961644</a>). Upon ligand binding, translocates into the nucleus, where it heterodimerizes with ARNT and induces transcription by binding to xenobiotic response elements (XRE) (PubMed:<a href="http://www.uniprot.org/citations/23275542" target="\_blank">23275542</a>, PubMed:<a href="http://www.uniprot.org/citations/30373764" target="\_blank">30373764</a>, PubMed:<a href="http://www.uniprot.org/citations/7961644" target="\_blank">7961644</a>). Regulates a variety of biological processes, including angiogenesis, hematopoiesis, drug and lipid metabolism, cell motility and immune modulation (PubMed:<a href="http://www.uniprot.org/citations/12213388" target="\_blank">12213388</a>). 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:<a href="http://www.uniprot.org/citations/7961644" target="\_blank">7961644</a>, PubMed:<a href="http://www.uniprot.org/citations/33193710" target="\_blank">33193710</a>). Mediates biochemical and toxic effects of halogenated aromatic hydrocarbons (PubMed:<a href="http://www.uniprot.org/citations/34521881" target="\_blank">34521881</a>, PubMed:<a href="http://www.uniprot.org/citations/7961644" target="\_blank">7961644</a>). Next to xenobiotics, natural ligands derived from plants, microbiota, and endogenous metabolism are potent AHR agonists (PubMed:<a href="http://www.uniprot.org/citations/18076143" target="\_blank">18076143</a>). Tryptophan (Trp) derivatives constitute an important class of endogenous AHR ligands (PubMed:<a href="http://www.uniprot.org/citations/32818467" target="\_blank">32818467</a>, PubMed:<a href="http://www.uniprot.org/citations/32866000" target="\_blank">32866000</a>). 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:<a href="http://www.uniprot.org/citations/32818467" target="\_blank">32818467</a>). Regulates the circadian clock by inhibiting the basal and circadian expression of the core circadian component PER1 (PubMed:<a href="http://www.uniprot.org/citations/28602820" target="\_blank">28602820</a>). Inhibits PER1 by repressing the CLOCK-BMAL1 heterodimer mediated transcriptional activation of PER1 (PubMed:<a href="http://www.uniprot.org/citations/28602820" target="\_blank">28602820</a>). The heterodimer ARNT:AHR binds to core DNA sequence 5'-TGC~~G~~TG-3' within the dioxin response element (DRE) of target gene promoters and activates their transcription (PubMed:<a href="http://www.uniprot.org/citations/28602820" target="\_blank">28602820</a>).

#### **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)

#### **AHR Antibody (Center) Blocking peptide - Protocols**

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

- [Blocking Peptides](#)

#### **AHR Antibody (Center) Blocking peptide - Images**

#### **AHR Antibody (Center) Blocking peptide - Background**

AHR is a ligand-activated transcription factor involved in the regulation of biological responses to planar aromatic hydrocarbons. This receptor has been shown to regulate xenobiotic-metabolizing enzymes such as cytochrome P450. Its ligands included a variety of aromatic hydrocarbons. [provided by RefSeq].

#### **AHR Antibody (Center) Blocking peptide - References**

Davila, S., et al. Genes Immun. (2010) In press :Kalthoff, S., et al. J. Biol. Chem. 285(9):5993-6002(2010)Hall, J.M., et al. Mol. Endocrinol. 24(2):359-369(2010)Schroeder, J.C., et al. Biochemistry 49(2):393-400(2010)