Active Aryl Hydrocarbon Receptor (AhR)

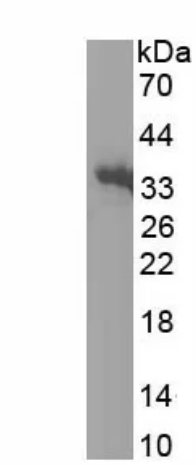
Catalog#:PEH12655

概述（Summary）

别称（Alternative Names）	BHLHE76; Class E basic helix-loop-helix protein 76
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Val128-Asn399】
Accession #	P35869
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	32.2 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	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. Upon ligand binding, translocates into the nucleus, where it heterodimerizes with ARNT and induces transcription by binding to xenobiotic response elements (XRE). Regulates a variety of biological processes, including angiogenesis, hematopoiesis, drug and lipid metabolism, cell motility and immune modulation. 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). Mediates biochemical and toxic effects of halogenated aromatic hydrocarbons. Next to xenobiotics, natural ligands derived from plants, microbiota, and endogenous metabolism are potent AHR agonists. Tryptophan (Trp) derivatives constitute an important class of endogenous AHR ligands. 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. Regulates the circadian clock by inhibiting the basal and circadian expression of the core circadian component PER1. Inhibits PER1 by repressing the CLOCK-ARNTL/BMAL1 heterodimer mediated transcriptional activation of PER1. 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.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

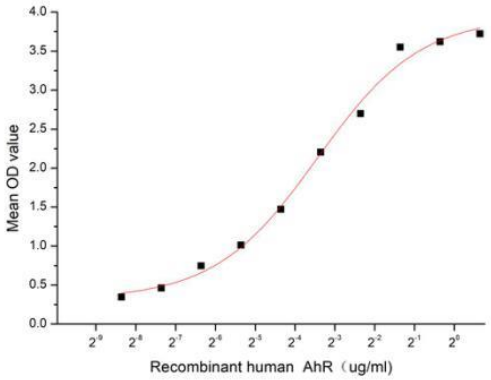


Figure 1. The binding activity of recombinant human AhR and recombinant human HSP90aA1

Aryl Hydrocarbon Receptor (AhR), also known as bHLHE76, is a 110 kDa member of the bHLH/PAS transcription factor family. It is widely expressed (breast, lung, liver), and serves many functions. It is a ligand-activated transcription factor best known for its role in sensing xenobiotics and regulating the expression of genes involved in xenobiotic metabolism, including drug transporters and drug metabolizing enzymes. Heat Shock Protein 90kDa Alpha A1 (HSP90aA1) has been identified as an interactor of AhR, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human AhR and recombinant human HSP90aA1. Briefly, AhR were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to HSP90aA1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-AhR pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450 nm immediately. The binding activity of AhR and HSP90aA1 was shown in Figure 1, and this effect was in a dose dependent manner, the EC50 for this effect is 0.09 ug/mL.

注意事项（Note）

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