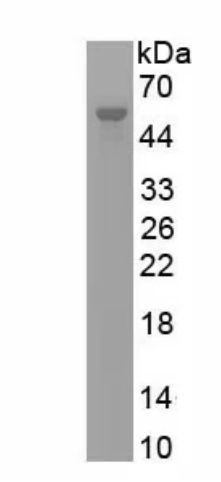
Active Cytochrome P450 2E1 (CYP2E1)

Catalog#:PEH12577

概述（Summary）

别称（Alternative Names）	CPE1; CYPIIE1; P450-J; P450C2E; 4-nitrophenol 2-hydroxylase; Cytochrome P450 Family 2 Subfamily E 1; Cytochrome P450,Subfamily IIE(Ethanol-Inducible)Polypeptide 1
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）	【Pro36-Ser493】
Accession #	P05181
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	56.7 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 ddH_2O to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	A cytochrome P450 monooxygenase involved in the metabolism of fatty acids. Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (NADPH--hemoprotein reductase). Catalyzes the hydroxylation of carbon-hydrogen bonds. Hydroxylates fatty acids specifically at the omega-1 position displaying the highest catalytic activity for saturated fatty acids. May be involved in the oxidative metabolism of xenobiotics.

电泳图（SDS-PAGE image）



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

活性图（Bioactivity image）

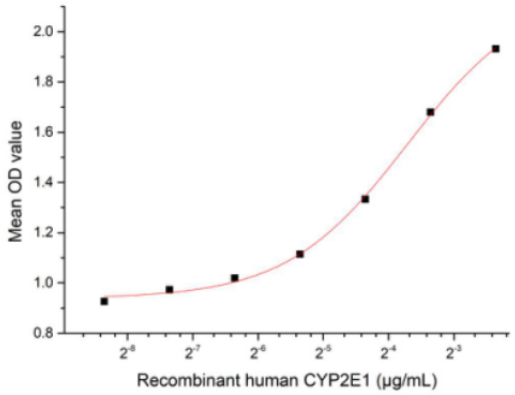


Figure 1. The binding activity of recombinant human CYP2E1 and human GSTM1

Cytochrome P450 2E1 (CYP2E1) is a conserved microsomal monooxygenase predominantly expressed in the human liver, belonging to the cytochrome P450 superfamily. It mediates the oxidative metabolism of numerous small-molecule xenobiotics, ethanol, and endogenous compounds, activating many procarcinogens and toxicants such as nitrosamines, benzene, and halogenated solvents. Besides metabolizing clinical drugs including acetaminophen and volatile anesthetics, CYP2E1 catalyzes redox reactions that generate reactive oxygen species (ROS), triggering oxidative stress, lipid peroxidation, and cellular damage. Its inducibility by alcohol and environmental chemicals links it to alcoholic liver injury, drug-induced hepatotoxicity, and cancer susceptibility, making it a key enzyme in toxicology and disease research. Functionally, CYP2E1 activates toxic intermediates, while GSTM1 detoxifies these metabolites via glutathione conjugation.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human CYP2E1 and recombinant human GSTM1. Briefly, CYP2E1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to GSTM1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CYP2E1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, 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 450/630nm immediately. The binding activity of recombinant human CYP2E1 and recombinant human GSTM1 was shown in Figure 1, the EC50 for this effect is 0.076 µg/mL.

注意事项（Note）

For Research Use Only , Not for Diagnostic Use.