Active Cytochrome P450 2D6 (CYP2D6)

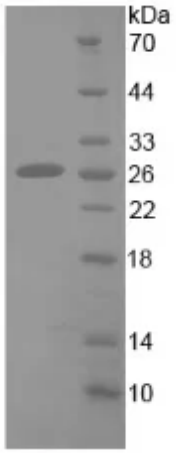
Catalog#:PEH12911

概述（Summary）

别称（Alternative Names）	CYP2D; P450C2D; CPD6; CYP2DL1; P450-DB1; Cytochrome P450 Family 2 Subfamily D Polypeptide 6; Cytochrome P450-DB1; Debrisoquine 4-hydroxylase
纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Leu236-Gln472】
Accession #	P10635
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	28.1 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 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 20mM Tris, 150mM NaCl (pH8.0) 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, steroids and retinoids. 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 epoxidation of double bonds of polyunsaturated fatty acids (PUFA). Metabolizes endocannabinoid arachidonoylethanolamide (anandamide) to 20-hydroxyeicosatetraenoic acid ethanolamide (20-HETE-EA) and 8,9-, 11,12-, and 14,15-epoxyeicosatrienoic acid

ethanolamides (EpETrE-EAs), potentially modulating endocannabinoid system signaling. Catalyzes the hydroxylation of carbon-hydrogen bonds. Metabolizes cholesterol toward 25-hydroxycholesterol, a physiological regulator of cellular cholesterol homeostasis. Catalyzes the oxidative transformations of all-trans retinol to all-trans retinal, a precursor for the active form all-trans-retinoic acid. Also involved in the oxidative metabolism of drugs such as antiarrhythmics, adrenoceptor antagonists, and tricyclic antidepressants.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

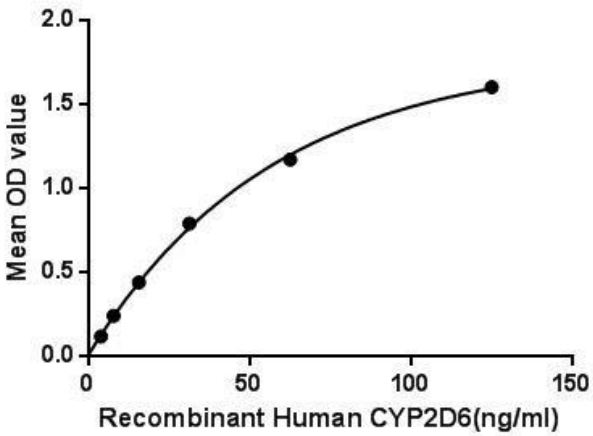


Figure. The binding activity of CYP2D6 with CPR. Cytochrome P450 2D6 (CYP2D6), a member of the cytochrome P450 mixed-function oxidase system, is one of the most important enzymes involved in the metabolism of xenobiotics in the body. In particular, CYP2D6 is responsible for the metabolism and elimination of approximately 25% of clinically used drugs, via the addition or removal of certain functional groups-specifically, hydroxylation, demethylation, and dealkylation. CYP2D6 is primarily expressed in the liver. It is also highly expressed in areas of the central nervous system, including the substantia nigra.

This enzyme also metabolizes several endogenous substances, such as hydroxytryptamines, neurosteroids, and both m-tyramine and p-tyramine which CYP2D6 metabolizes into dopamine in the brain and liver. Besides, Cytochrome P450 Reductase (CPR) has been identified as an interactor of CYP2D6, thus a binding ELISA assay was conducted to detect the interaction of recombinant human VDR and recombinant human CPR. Briefly, CYP2D6 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to CPR-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CYP2D6 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of CYP2D6 and CPR was shown in Figure 1, and this effect was in a dose dependent manner.

注意事项（Note）

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