

Cytochrome P450 2E1 (CYP2E1) Active Protein | CYP2E1 active protein

Active Cytochrome P450 2E1 (CYP2E1)

CATALOG # AAA161817	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Cytochrome P450 2E1 (CYP2E1); Active Cytochrome P450 2E1 (CYP2E1); Cytochrome P450 2E1; CPE1; CYP11E1; P450-J; P450C2E; 4-nitrophenol 2-hydroxylase; Cytochrome P450 Family 2 Subfamily E 1; Cytochrome P450; Subfamily IIE(Ethanol-Inducible)Polypeptide 14; CYP2E1 active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Pro36~Ser4 93
Applicable Applications for CYP2E1 active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	8
Research Area	Signal transduction, Metabolic pathway
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

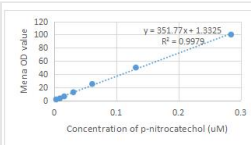


Figure 1. The standard curve of p-nitrocatechol

One unit of enzyme activity is defined as the 1 µg of enzyme required to convert 1 pmol of p-nitrophenol to p-nitrocatechol in 1 min at 37°C. The specific activity of recombinant human CYP2E1 is 1.4 pmol/min/µg.

Specific Activity (pmol/min/µg)= $\frac{\Delta OD \times F}{T \times N}$

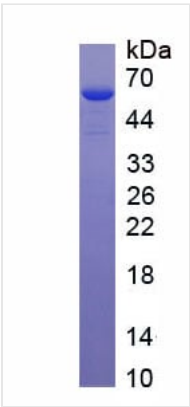
ΔOD=Adjusted for Substrate Blank

F=Conversion Factor(convert from standard curve of p-nitrocatechol)

T= Time

N=Amount of enzyme

OD535nm	p-nitrocatechol (product) uM
0.2847	100
0.1315	50
0.0614	25
0.031	12.5
0.0163	6.25
0.0094	3.125
0.0033	1.5625



SDS-PAGE

Figure. SDS-PAGE

Bioactivity

The cytochrome P450 enzyme CYP2E1 catalyzes the oxidative metabolism of many solvents and other small organic molecules. CYP2E1 is expressed in adult and fetal human liver in addition to extrahepatic tissues such as lung and placenta. Treatment of primary cultures of human hepatocytes with ethanol induces CYP2E1 protein, and this is consistent with the finding that hepatic CYP2E1 protein and mRNA levels are increased in individuals with alcoholism. Although only a few drugs (e.g., acetaminophen have been identified as substrates for CYP2E1, many low molecular weight procarcinogens are activated by this cytochrome P450 (P450). Chlorzoxazone 6-hydroxylation, N-nitrosodimethylamine N-demethylation and p-nitrophenol hydroxylation can be used to measure the catalytic activity of CYP2E1. Thus, the recombinant human CYP2E1 activity was measured by its ability to hydroxylate p-nitrophenol to p-nitrocatechol. The reaction was performed in 50 mM potassium phosphate, pH 7.4 (Assay Buffer), initiated by addition 20 uL of 500 ug/ml CYP2E1 to 10 uL of 5 mM substrate p-nitrophenol and 30 uL of 26 mM NADPH in a total volume of 500 uL. Incubated at 37 degree C for 30min, then read at a wavelength of 535 nm after acidification of the reaction mixture with trichloroacetic acid followed by neutralization using 2 M NaOH.

ADDITIONAL INFORMATION

Product Categories/Family for CYP2E1 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	10834998
NCBI GeneID	1571
NCBI Accession #	NP_000764.1
NCBI GenBank Nucleotide #	NM_000773.3
UniProt Accession #	P05181; Q5VZD5; Q9UK47
Molecular Weight	56,849 Da
NCBI Official Full Name	cytochrome P450 2E1
NCBI Official Synonym Full Names	cytochrome P450, family 2, subfamily E, polypeptide 1
NCBI Official Symbol	CYP2E1
NCBI Official Synonym Symbols	CPE1; CYP2E; P450-J; P450C2E
NCBI Protein Information	cytochrome P450 2E1; CYPIIE1; cytochrome P450-J; microsomal monooxygenase; xenobiotic monooxygenase; 4-nitrophenol 2-hydroxylase; flavoprotein-linked monooxygenase; cytochrome P450, subfamily IIE (ethanol-inducible), polypeptide 1
UniProt Protein Name	Cytochrome P450 2E1
UniProt Gene Name	CYP2E1

UniProt Synonym Gene Names	CYP2E
UniProt Entry Name	CP2E1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/cytochrome-p450-2e1-cyp2e1/161817>