

Recombinant Human CYP2E1

Cat. No. CYP2E1-2475H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Human Cytochrome P450 2E1 was expressed in *E. coli*.

Species Human

Source E.coli

Description Cytochrome P450 2E1 (abbreviated CYP2E1, EC 1.14.14.1), a member of the cytochrome P450 mixed-function oxidase system, is involved in the metabolism of xenobiotics in the body. In humans, the CYP2E1 enzyme is encoded by the CYP2E1 gene. While it is involved in the oxidative metabolism of a small range of substrates (mostly small polar molecules), there are many important drug interactions mediated by CYP2E1.

Specific Activity Chlorzoxazone 6-hydroxylation: 16.6 nmol/min/nmol of P450 at 37°C. Reconstitution conditions: 30 pmol CYP2E1, 60 pmol NADPH cytochrome P450 reductase, 30 pmol human cytochrome b5, 30 g CHAPS, 6 g liposomes {1:1:1 1,2-dilauroyl-sn-glycero-3-phosphocholine, 1,2-dileoyl-sn-glycero-3-phosphocholine, 1,2-dilauroyl-sn-glycero-3-phosphoserine}, 0.6 mM reduced glutathione, 10 mM HEPES/KOH (pH 7.4), and 1mM chlorzoxazone in a total reaction volume of 0.3 mL. Reactions started with the addition of 2 mM NADPH. N-nitrosodimethylamine demethylation: 17.2 nmol/min/nmol of P450 at 37°C. Reconstitution conditions performed as above with 1.67X enzymes and lipids in a volume of 0.5 mL. N-nitrosodimethylamine concentration at 4 mM and reactions started with the addition of 2 mM NADPH.

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Concentration	1.53 mg/mL total protein using the BCA protein assay with BSA as a standard.
Specific Content	16 nmol of spectral P450 per milligram of protein.
Storage Buffer	20 mM potassium phosphate (pH 7.4), 0.2 mM EDTA, 1 mM DTT, 20% (v/v) Glycerol.
Purity	Greater than 85% as assessed by visual inspection of a Coomassie® Blue-stained SDS-PAGE gel.
Storage	-80°C long-term; -20°C less than one month; avoid multiple freeze-thaw cycles.

GENE INFORMATION

Gene Name	CYP2E1 cytochrome P450, family 2, subfamily E, polypeptide 1 [Homo sapiens]
Synonyms	cytochrome P450, family 2, subfamily E, polypeptide 1; CPE1; CYP2E; P450-J; P450C2E; CYP2E1; cytochrome P450 2E1; CYP11E1; cytochrome P450-J; microsomal monooxygenase; xenobiotic monooxygenase; 4-nitrophenol 2-hydroxylase; flavoprotein-linked monooxygenase; cytochrome P450, subfamily IIE (ethanol-inducible), polypeptide 1; EC 1.14.13.-, EC 1.14.13.n7
Gene ID	1571
mRNA Refseq	NM_000773
Protein Refseq	NP_000764
MIM	124040
UniProt ID	cytochrome P450, subfamily IIE (ethanol-inducible), polypeptide 1

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**Chromosome
Location**

10q24.3-qter

Pathway

Arachidonic acid metabolism; Drug metabolism - cytochrome P450; Linoleic acid metabolism; Metabolic pathways; Metabolism of xenobiotics by cytochrome P450; Biological oxidations

Function

electron carrier activity; enzyme binding; heme binding; metal ion binding; monooxygenase activity; oxidoreductase activity; oxygen binding; oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, NADH or NADPH as one donor, and incorporation of one atom of oxygen; oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, reduced flavin or flavoprotein as one donor, and incorporation of one atom of oxygen

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