

Active Recombinant Human CYP2D6 Protein

Cat. No. CYP2D6-49H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human CYP2D6 and human CYP-reductase without tag was coexpressed in Escherichia coli. Amount: 0.5 nmol cytochrome P450
Species	Human
Source	E.coli
Description	This gene encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum and is known to metabolize as many as 25% of commonly prescribed drugs. Its substrates include antidepressants, antipsychotics, analgesics and antitussives, beta adrenergic blocking agents, antiarrhythmics and antiemetics. The gene is highly polymorphic in the human population; certain alleles result in the poor metabolizer phenotype, characterized by a decreased ability to metabolize the enzyme's substrates. Some individuals with the poor metabolizer phenotype have no functional protein since they carry 2 null alleles whereas in other individuals the gene is absent. This gene can vary in copy number and individuals with the ultrarapid metabolizer phenotype can have 3 or more active copies of the gene. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.
Bio-activity	Cytochrome c Reductase Activity: 811 nmol/min/mg protein

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P450 Activity Data(Unless otherwise stated, all assays are carried out at 37 centigrade in 50 mM potassium phosphate buffer (pH 7.4) containing 5 mM magnesium chloride and an NADPH generating system [5 mM glucose 6-phosphate, 1 mM NADP+, 1 U/ml glucose 6-phosphate dehydrogenase])

Activity: Dextromethorphan O-demethylase

Linear with time up to: 8 min(Determined at 0.4 μ M substrate, using a P450 concentration of 1 pmol/ml)

Linear with P450 up to: 5 pmol/ml(Determined at 0.4 μ M substrate, using an incubation time of 5 min)

Vmax: 9.5 pmol/min/pmol CYP

Km: 0.38 μ M

Usage For laboratory (research) purposes only.

Storage Store at -80 centigrade. Avoid frequent temperature changes. Thaw on ice.

Concentration

P450 Concentration: 1.0 nmol/ml

Protein Concentration: 10.0 mg/ml

Specific P450 Content: 100 pmol/mg protein

Storage Buffer 50 mM Tris-acetate (pH 7.6), 250 mM sucrose, 0.25 mM EDTA

GENE INFORMATION

Gene Name CYP2D6 cytochrome P450 family 2 subfamily D member 6 [Homo sapiens (human)]

Official Symbol CYP2D6

Synonyms CYP2D6; cytochrome P450 family 2 subfamily D member 6; CPD6; CYP2D; CYP2DL1; CYP2D6; P450C2D; P450DB1; CYP2D7AP; CYP2D7BP; CYP2D7P2; CYP2D8P2; P450-DB1; cytochrome P450 2D6; cholesterol 25-hydroxylase;

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cytochrome P450, family 2, subfamily D, polypeptide 6; cytochrome P450, family 2, subfamily D, polypeptide 7 pseudogene 2; cytochrome P450, family 2, subfamily D, polypeptide 8 pseudogene 2; cytochrome P450, subfamily II (debrisoquine, sparteine, etc., -metabolising), polypeptide 7 pseudogene 2; cytochrome P450, subfamily IID (debrisoquine, sparteine, etc., -metabolising), polypeptide 8 pseudogene 2; cytochrome P450, subfamily IID (debrisoquine, sparteine, etc., -metabolizing), polypeptide 6; cytochrome P450, subfamily IID (debrisoquine, sparteine, etc., -metabolizing)-like 1; cytochrome P450-DB1; debrisoquine 4-hydroxylase; flavoprotein-linked monooxygenase; microsomal monooxygenase; nonfunctional cytochrome P450 2D6; xenobiotic monooxygenase; EC 1.14.14.1

Gene ID	1565
mRNA Refseq	NM_000106
Protein Refseq	NP_000097
MIM	124030
UniProt ID	P10635