

## Active Recombinant Human CYP2D6 Protein

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

### SPECIFICATION

<b>Product Overview</b>	Recombinant human CYP2D6 and human CYP-reductase without tag was coexpressed in Escherichia coli. Amount: 0.5 nmol cytochrome P450
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>Description</b>	<p>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.</p>
<b>Bio-activity</b>	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  $\mu$ M substrate, using a P450 concentration of 1 pmol/ml)

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

Vmax: 9.5 pmol/min/pmol CYP

Km: 0.38  $\mu$ 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; CYPIID6; 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

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