

Active Recombinant Human CYP2A6 Protein

Cat. No. CYP2A6-12H Lot. No. (See product label)

SPECIFICATION

Product Overview	<p>Recombinant human CYP2A6 and human CYP-reductase without tag was coexpressed in Escherichia coli.</p> <p>Amount: 0.5 nmol cytochrome P450</p>
Species	Human
Source	E.coli
Description	<p>This gene, CYP2A6, 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 its expression is induced by phenobarbital. The enzyme is known to hydroxylate coumarin, and also metabolizes nicotine, aflatoxin B1, nitrosamines, and some pharmaceuticals.</p> <p>Individuals with certain allelic variants are said to have a poor metabolizer phenotype, meaning they do not efficiently metabolize coumarin or nicotine. This gene is part of a large cluster of cytochrome P450 genes from the CYP2A, CYP2B and CYP2F subfamilies on chromosome 19q. The gene was formerly referred to as CYP2A3; however, it has been renamed CYP2A6.</p>
Bio-activity	<p>Cytochrome c Reductase Activity: 263 nmol/min/mg protein</p> <p>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,</p>

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1 mM NADP+, 1 U/ml glucose 6-phosphate dehydrogenase])
 Activity: Coumarin 7-hydroxylase
 Linear with time up to: 8 min(Determined at 0.8 μM substrate, using a P450 concentration of 0.5 pmol/ml)
 Linear with P450 up to: 2 pmol/ml(Determined at 0.8 μM substrate, using an incubation time of 5 min)
 Vmax: 7.9 pmol/min/pmol CYP
 Km: 0.88 μM

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 CYP2A6 cytochrome P450 family 2 subfamily A member 6 [Homo sapiens (human)]

Official Symbol CYP2A6

Synonyms CYP2A6; cytochrome P450 family 2 subfamily A member 6; CPA6; CYP2A; CYP2A3; P450PB; CYPIIA6; P450C2A; cytochrome P450 2A6; 1,4-cineole 2-exo-monooxygenase; coumarin 7-hydroxylase; cytochrome P450 IIA3; cytochrome P450(I); cytochrome P450, family 2, subfamily A, polypeptide 6; cytochrome P450, subfamily IIA (phenobarbital-inducible), polypeptide 6; flavoprotein-linked monooxygenase; xenobiotic monooxygenase; EC 1.14.14.1

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Gene ID	1548
mRNA Refseq	NM_000762
Protein Refseq	NP_000753
MIM	122720
UniProt ID	P11509

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