

Active Recombinant Human CYP1A2 Protein

Cat. No. CYP1A2-68H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant human CYP1A2 protein and CYP-reductase without tag were coexpressed in E. coli.
Species	Human
Source	E.coli
Description	<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. The protein encoded by this gene localizes to the endoplasmic reticulum and its expression is induced by some polycyclic aromatic hydrocarbons (PAHs), some of which are found in cigarette smoke. The enzyme's endogenous substrate is unknown; however, it is able to metabolize some PAHs to carcinogenic intermediates. Other xenobiotic substrates for this enzyme include caffeine, aflatoxin B1, and acetaminophen. The transcript from this gene contains four Alu sequences flanked by direct repeats in the 3' untranslated region.</p>
Bio-activity	<p>Cytochrome c Reductase Activity: 471 nmol/min/mg protein 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: 7-ethoxycoumarin O-deethylase</p>

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Linear with time up to: 15 min(Determined at 2 μ M substrate, using a P450 concentration of 10 pmol/ml)
Linear with P450 up to: 10 pmol/ml(Determined at 2 μ M substrate, using an incubation time of 5 min)
Vmax: 0.77 pmol/min/pmol CYP
Km: 1.9 μ M

Usage For laboratory (research) purposes only

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

Concentration
P450 Concentration: 10.0 nmol/ml
Protein Concentration: 10.8 mg/ml
Specific P450 Content: 930 pmol/mg protein

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

GENE INFORMATION

Gene Name CYP1A2 cytochrome P450 family 1 subfamily A member 2 [Homo sapiens (human)]

Official Symbol CYP1A2

Synonyms CYP1A2; cytochrome P450 family 1 subfamily A member 2; CP12; CYP1A2; P3-450; P450(PA); cytochrome P450 1A2; P450 form 4; aryl hydrocarbon hydroxylase; cholesterol 25-hydroxylase; cytochrome P(3)450; cytochrome P450 4; cytochrome P450, family 1, subfamily A, polypeptide 2; cytochrome P450, subfamily I (aromatic compound-inducible), polypeptide 2; cytochrome P450-P3; dioxin-inducible P3-450; flavoprotein-linked monooxygenase; hydroperoxy icosatetraenoate dehydratase; microsomal monooxygenase; xenobiotic monooxygenase

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Gene ID	1544
mRNA Refseq	NM_000761
Protein Refseq	NP_000752
MIM	124060
UniProt ID	P05177

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