

Active Recombinant Human CYP3A4 Protein

Cat. No. CYP3A4-347H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant human CYP3A4 and human CYP-reductase without tag was coexpressed in Escherichia coli, supplemented with purified human cytochrome b5. 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 that 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 glucocorticoids and some pharmacological agents. This enzyme is involved in the metabolism of approximately half the drugs in use today, including acetaminophen, codeine, cyclosporin A, diazepam and erythromycin. The enzyme also metabolizes some steroids and carcinogens. This gene is part of a cluster of cytochrome P450 genes on chromosome 7q21.1. Previously another CYP3A gene, CYP3A3, was thought to exist; however, it is now thought that this sequence represents a transcript variant of CYP3A4. Alternatively spliced transcript variants encoding different isoforms have been identified.

Bio-activity Cytochrome c Reductase Activity: 563 nmol/min/mg protein
P450 Activity Data(Unless otherwise stated, all assays are carried out at 37 centigrade in 100 mM potassium phosphate buffer (pH 7.4) containing 5 mM

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magnesium chloride and an NADPH generating system [5 mM glucose 6-phosphate, 1 mM NADP+, 1 U/ml glucose 6-phosphate dehydrogenase]

Activity: Testosterone 6 β -hydroxylase

Linear with time up to: 5 min(Determined at 32 μ M substrate, using a P450 concentration of 5 pmol/ml)

Linear with P450 up to: 20 pmol/ml(Determined at 32 μ M substrate, using an incubation time of 5 min)

Vmax: 122 pmol/min/pmol CYP

Km: 22 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
 Cytochrome b5 Concentration: 5.0 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 CYP3A4 cytochrome P450 family 3 subfamily A member 4 [Homo sapiens (human)]

Official Symbol CYP3A4

Synonyms CYP3A4; cytochrome P450 family 3 subfamily A member 4; HLP; CP33; CP34; CYP3A; NF-25; CYP3A3; P450C3; CYP11A3; CYP11A4; P450PCN1; cytochrome P450 3A4; 1,4-cineole 2-exo-monooxygenase; 1,8-cineole 2-exo-monooxygenase; P450-III, steroid inducible; albendazole monooxygenase; albendazole

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monooxygenase (sulfoxide-forming); albendazole sulfoxidase; cholesterol 25-hydroxylase; cytochrome P450 3A3; cytochrome P450 HLP; cytochrome P450 NF-25; cytochrome P450, family 3, subfamily A, polypeptide 4; cytochrome P450, subfamily IIIA (nifedipine oxidase), polypeptide 3; cytochrome P450, subfamily IIIA (nifedipine oxidase), polypeptide 4; cytochrome P450-PCN1; glucocorticoid-inducible P450; nifedipine oxidase; quinine 3-monooxygenase; taurochenodeoxycholate 6-alpha-hydroxylase; EC 1.14.14.1; EC 1.14.14.55; EC 1.14.14.56; EC 1.14.14.73

Gene ID 1576

mRNA Refseq NM_017460

Protein Refseq NP_059488

MIM 124010

UniProt ID P08684

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