

## Active Recombinant Human CYP1A1 Protein

Cat. No. CYP1A1-69H Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant human CYP1A1 protein and CYP-reductase without tag were coexpressed in E. coli.
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>Description</b>	<p>This gene, CYP1A1, 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 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. The gene has been associated with lung cancer risk. A related family member, CYP1A2, is located approximately 25 kb away from CYP1A1 on chromosome 15. Alternative splicing results in multiple transcript variants encoding distinct isoforms.</p>
<b>Bio-activity</b>	<p>Cytochrome c Reductase Activity: 226 nmol/min/mg protein</p> <p>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 magnesium chloride and an NADPH generating system [5 mM isocitric acid, 5 M manganese chloride, 1 mM NADP+ , 1 U/ml isocitrate dehydrogenase])</p> <p>Activity: 7-ethoxycoumarin O-deethylase</p>

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Linear with time up to: 10 min(Determined at 5  $\mu$ M substrate, using a P450 concentration of 0.5 pmol/ml)  
 Linear with P450 up to: 2.5 pmol/ml(Determined at 5  $\mu$ M substrate, using an incubation time of 5 min)  
 Vmax: 23 pmol/min/pmol CYP  
 Km: 8.9  $\mu$ M

**Usage** For laboratory (research) purposes only

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

**Concentration**  
 P450 Concentration: 4.2 nmol/ml  
 Protein Concentration: 23.5 mg/ml  
 Specific P450 Content: 179 pmol/mg protein

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

## GENE INFORMATION

**Gene Name** CYP1A1 cytochrome P450 family 1 subfamily A member 1 [ Homo sapiens (human) ]

**Official Symbol** CYP1A1

**Synonyms** CYP1A1; cytochrome P450 family 1 subfamily A member 1; AHH; AHRR; CP11; CYP1; CYP1A1; P1-450; P450-C; P450DX; cytochrome P450 1A1; aryl hydrocarbon hydroxylase; cytochrome P1-450, dioxin-inducible; cytochrome P450 form 6; cytochrome P450, family 1, subfamily A, polypeptide 1; cytochrome P450, subfamily I (aromatic compound-inducible), polypeptide 1; cytochrome P450-C; cytochrome P450-P1; flavoprotein-linked monooxygenase; hydroperoxy icosatetraenoate dehydratas; exenobiotic monooxygenase

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Gene ID	1543
mRNA Refseq	NM_000499
Protein Refseq	NP_000490
MIM	108330
UniProt ID	P04798

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