

## Active Recombinant Human CYP2C19 Protein

Cat. No. CYP2C19-33H    Lot. No. (See product label)

### SPECIFICATION

**Product Overview**      Recombinant human CYP2C19 and human CYP-reductase without tag was coexpressed in Escherichia coli.  
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 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 many xenobiotics, including the anticonvulsive drug mephenytoin, omeprazole, diazepam and some barbiturates. Polymorphism within this gene is associated with variable ability to metabolize mephenytoin, known as the poor metabolizer and extensive metabolizer phenotypes. The gene is located within a cluster of cytochrome P450 genes on chromosome 10q24.

**Bio-activity**                      Cytochrome c Reductase Activity: 361 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: Diazepam N-demethylase

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Linear with time up to: 15 min(Determined at 20  $\mu$ M substrate, using a P450 concentration of 25 pmol/ml)  
 Linear with P450 up to: 60 pmol/ml(Determined at 20  $\mu$ M substrate, using an incubation time of 5 min)  
 Vmax: 3.7 pmol/min/pmol CYP  
 Km: 26  $\mu$ 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** CYP2C19 cytochrome P450 family 2 subfamily C member 19 [ Homo sapiens (human) ]

**Official Symbol** CYP2C19

**Synonyms** CYP2C19; cytochrome P450 family 2 subfamily C member 19; CPCJ; CYP2C; P450C2C; CYPIIC17; CYPIIC19; P450IIC19; cytochrome P450 2C19; (R)-limonene 6-monooxygenase; (S)-limonene 6-monooxygenase; (S)-limonene 7-monooxygenase; S-mephenytoin 4-hydroxylase; cytochrome P-450 II C; cytochrome P450, family 2, subfamily C, polypeptide 19; cytochrome P450, subfamily IIC (mephenytoin 4-hydroxylase), polypeptide 19; cytochrome P450-11A; cytochrome P450-254C; fenbendazole monooxygenase (4'-hydroxylating); flavoprotein-linked

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monooxygenase; mephenytoin 4'-hydroxylase; mephenytoin 4-hydroxylase; microsomal monooxygenase; xenobiotic monooxygenase; EC 1.14.14.1; EC 1.14.14.51; EC 1.14.14.52; EC 1.14.14.53; EC 1.14.14.75

**Gene ID** [1557](#)

**mRNA Refseq** [NM\\_000769](#)

**Protein Refseq** [NP\\_000760](#)

**MIM** [124020](#)

**UniProt ID** [P33261](#)

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