Data Sheet (Cat.No.TMPH-01186)

TargetMol

CYP2C9 Protein, Human, Recombinant (His & Myc)

General Information

Synonyms:	CYP2C10;CYPIIC9;Cytochrome P-450MP;Cytochrome P450 PB-1;(S)-limonene 6-monooxygenase;S-mephenytoin 4-hydroxylase;Cytochrome P450 MP-8;CYP2C9;(R)-limonene 6-monooxygenase;Cytochrome P450 2C9;(S)-limonene 7-monooxygenase;Cholesterol 25-hydroxylase;Cytochrome P450 MP-4
Protein Construction:	1-162 aa
Species:	Human
Expression Host:	E. coli
Accession:	P11712
Molecular Weight:	25.4 kDa (predicted)
AA Sequence:	MDSLVVLVLCLSCLLLLSLWRQSSGRGKLPPGPTPLPVIGNILQIGIKDISKSLTNLSKVYGPVFTLYFGLKPIVVLHGYEAVKEALIDLGEEFSGRGIFPLAERANRGFGIVFSNGKKWKEIRRFSLMTLRNFGMGKRSIEDRVQEEARCLVEELRKTKGG

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids and steroids. Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and

reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (NADPH--hemoprotein reductase). Catalyzes the epoxidation of double bonds of polyunsaturated fatty acids (PUFA). Catalyzes the hydroxylation of carbon-hydrogen bonds. Metabolizes cholesterol toward 25-hydroxycholesterol, a physiological regulator of cellular cholesterol homeostasis. Exhibits low catalytic activity for the formation of catechol estrogens from 17beta-estradiol (E2) and estrone (E1), namely 2-hydroxy E1 and E2. Catalyzes bisallylic hydroxylation and hydroxylation with double-bond migration of polyunsaturated fatty acids (PUFA). Also metabolizes plant monoterpenes such as limonene. Oxygenates (R)- and (S)-limonene to produce carveol and perillyl alcohol. Contributes to the wide pharmacokinetics variability of the metabolism of drugs such as S-warfarin, diclofenac, phenytoin, tolbutamide and losartan.