Recombinant CP2C8 protein (His tag)

Catalog Number	537499
Synonyms	CYPIIC8; Cytochrome P450 IIC2; Cytochrome P450 MP-12; Cytochrome P450 MP-20; Cytochrome P450 form 1; S-mephenytoin 4-hydroxylase
Species	Human
Expression System	E. coli
Accession	P10632
Molecular Weight	Predictes a molecular mass of 57.48 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 57 kDa band.

Product Information

Sequence Region	1-490
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-490 aa (P10632) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Cytochrome P450 2C8 (CYP2C8) fragment (amino acids 1-490) - a highly purified, stable protein preparation ideal for drug metabolism studies, enzyme kinetics, and structural biology research. This soluble fragment maintains key functional domains while offering enhanced experimental handling for investigating xenobiotic metabolism and endogenous compound processing. Cytochrome P450 2C8 is a membrane-associated monooxygenase located in the endoplasmic reticulum and microsomes, playing a critical role in the metabolism of both endogenous compounds and xenobiotics. The enzyme utilizes molecular oxygen with electrons provided by NADPH via cytochrome P450 reductase to catalyze epoxidation and hydroxylation reactions. CYP2C8 demonstrates broad substrate specificity, including metabolism of polyunsaturated fatty acids through epoxidation of double bonds, hydroxylation of all-trans-retinoic acid to its 4-hydroxylated form, and 16-alpha hydroxylation of estrogen hormones (17beta-estradiol and estrone). Notably, it serves as the principal enzyme responsible for metabolizing the anti-cancer drug paclitaxel (taxol), highlighting its significant role in pharmaceutical metabolism and drug-drug interaction studies.