Recombinant CP4V2 protein (His tag)

Catalog Number	540568
Synonyms	Docosahexaenoic acid omega-hydroxylase CYP4V2; Long-chain fatty acid omega-monooxygenase
Species	Human
Expression System	E. coli
Accession	Q6ZWL3
Molecular Weight	Predictes a molecular mass of 58.99 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 62 kDa band.

Product Information

Sequence Region	34-525
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 34-525 aa (Q6ZWL3) 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	This recombinant protein product features a stable and soluble fragment (residues 34-525) of human Cytochrome P450 4V2, a key enzyme involved in fatty acid metabolism. Designed for structural and biochemical studies, this fragment retains functional relevance for investigating omega-hydroxylation of polyunsaturated fatty acids like docosahexaenoate (DHA) and eicosapentaenoate (EPA), offering researchers a reliable tool for exploring lipid homeostasis mechanisms in ocular biology. Cytochrome P450 4V2 (CYP4V2) is a human endoplasmic reticulum membrane-anchored monooxygenase critical for fatty acid metabolism in the eye. It catalyzes the omega-hydroxylation of polyunsaturated fatty acids, including docosahexaenoate (DHA) and eicosapentaenoate (EPA), contributing to retinal PUFA homeostasis. The enzyme also hydroxylates saturated fatty acids such as myristate, laurate, and palmitate with varying catalytic efficiencies. Functionally, it utilizes molecular oxygen and NADPH via cytochrome P450 reductase to insert one oxygen atom into substrates while reducing the second to water. This role underscores its importance in maintaining lipid balance and potential implications in ocular health and disease pathways.