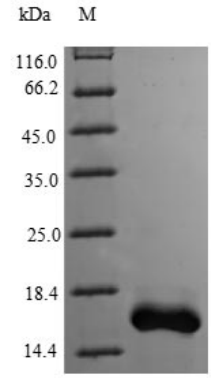
Recombinant Human Pterin-4-alpha-carbinolamine dehydratase (PCBD1)

Product Code	CSB-EP017514HUa0
Relevance	Involved in tetrahydrobiopterin biosynthesis. Seems to both prevent the formation of 7-pterins and accelerate the formation of quinonoid-BH2. Coactivator for HNF1A-dependent transcription. Regulates the dimerization of homeodomain protein HNF1A and enhances its transcriptional activity.
Abbreviation	Recombinant Human PCBD1 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P61457
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AGKAHRLSAEERDQLLPNLRAVGWNELEGRDAIFKQFHFKDFNRAFGFMTRV ALQAEKLDHHPEWFNVYNKVHITLSTHECAGLSERDINLASFIEQVAVSMT
Research Area	Epigenetics and Nuclear Signaling
Source	E.coli
Target Names	PCBD1
Protein Names	4-alpha-hydroxy-tetrahydropterin dehydratase Dimerization cofactor of hepatocyte nuclear factor 1-alpha Short name: DCoH Short name: Dimerization cofactor of HNF1 Phenylalanine hydroxylase-stimulating protein Pterin carbinolamine dehydratase DCOH, PCBD
Expression Region	2-104aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	15.9 kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The expression region of this recombinant Human PCBD1 covers amino acids 2-104. The theoretical molecular weight of the PCBD1 protein is 15.9 kDa. This PCBD1 protein is produced using e.coli expression system. The PCBD1 coding gene included the N-terminal 6xHis tag, which simplifies the detection and purification processes of the recombinant PCBD1 protein in following stages of expression and purification.

Pterin-4-alpha-carbinolamine dehydratase (PCBD1) is a crucial enzyme involved in the biosynthesis of tetrahydrobiopterin (BH4), an essential cofactor for various enzymes, including those participating in neurotransmitter synthesis and nitric oxide production. PCBD1 catalyzes the conversion of 6-pyruvoyl tetrahydropterin to dihydrobiopterin, a key step in the BH4 biosynthetic pathway. Beyond its role in BH4 synthesis, PCBD1 has been associated with various cellular functions, including the regulation of oxidative stress and the modulation of endothelial nitric oxide synthase (eNOS) activity. Additionally, PCBD1 plays a vital role in maintaining redox balance, making it crucial for proper cellular function. Research on PCBD1 focuses on understanding its molecular mechanisms, exploring its interactions with other proteins in the BH4 pathway, and investigating its implications in diseases related to BH4 deficiency or redox imbalance.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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