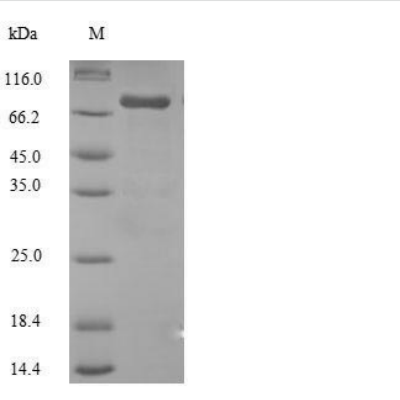
Recombinant Human Steroid 17-alpha-hydroxylase/17,20 lyase (CYP17A1)

Product Code	CSB-EP006392HU
Relevance	Conversion of pregnenolone and progesterone to their 17-alpha-hydroxylated products and subsequently to dehydroepiandrosterone (DHEA) and androstenedione. Catalyzes both the 17-alpha-hydroxylation and the 17,20-lyase reaction. Involved in sexual development during fetal life and at puberty.
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.	P05093
Alias	17-alpha-hydroxyprogesterone aldolaseCYPXVIICytochrome P450 17A1Cytochrome P450-C17 ;Cytochrome P450c17Steroid 17-alpha-monooxygenase
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MWELVALLLLTLAYLFWPKRRCPGAKYPKSLLSLPLVGSLPFLPRHGHMHNNF FKLQKKYGPIYSVRMGTKTTVIVGHHQLAKEVLIKKGKDFSGRPQMATLDIASN NRKGIAFADSGAHWQLHRRLAMATFALFKDGDQKLEKIICQEISTLCDMLATHN GQSIDISFPVFVAVTNVISLICFNTSYKNGDPELNVIQNYNEGIIDNLSKDSLVDL VPWLKIFPNKTLEKLKSHVKIRNDLLNKILENYKEKFRSDSITNMLDTLMQAKMN SDNGNAGPDQDSELLSDNHILTTIGDIFGAGVETTTSVVKWTLAFLLHNPQVKK KLYEEIDQNVGFSRTPTISDRNRLLLLEATIREVLRLRPVAPMLIPHKANVDSSIG EFAVDKGTEVIINLWALHHNEKEWHQPDQFMPERFLNPAGTQLISPSVSYLPF GAGPRSCIGEILARQELFLIMAWLLQRFDLEVPDDGQLPSLEGIPKVVFLIDSFK VKIKVRQAWREAQAEGST
Lead Time	3-7 business days
Research Area	Metabolism
Source	E.coli
Gene Names	CYP17A1
Expression Region	1-508aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	84.4kDa
Protein Description	Full Length

Image



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

Description

The recombinant Human CYP17A1 was expressed with the amino acid range of 1-508. The calculated molecular weight for this CYP17A1 protein is 84.4 kDa. This protein is generated in a e.coli-based system. The CYP17A1 gene fragment has been modified by fusing the N-terminal GST tag, providing convenience in detecting and purifying the recombinant CYP17A1 protein during the following stages.

Steroid 17-alpha-hydroxylase/17,20 lyase, encoded by the CYP17A1 gene, is a critical enzyme involved in steroidogenesis. This multifunctional cytochrome P450 enzyme plays a key role in both the adrenal cortex and gonads, where it participates in the biosynthesis of steroid hormones. In the adrenal glands, CYP17A1 catalyzes two essential reactions in the steroidogenic pathway: the 17-alpha-hydroxylation of pregnenolone and progesterone, and the subsequent 17,20 lyase cleavage, leading to the production of androgens, such as dehydroepiandrosterone (DHEA) and androstenedione. These androgens serve as precursors for the synthesis of sex hormones like testosterone and estrogen. CYP17A1's activities are crucial for the development and maintenance of secondary sexual characteristics and overall reproductive function. Dysfunction of CYP17A1 can lead to disorders of sex development and hormonal imbalances. Understanding the regulation of CYP17A1 is vital in the context of endocrine disorders and therapeutic interventions targeting steroid hormone production.

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.