

Recombinant Mouse Cyp7b1 Protein, Myc/DDK-tagged

Cat. No. Cyp7b1-2426M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length cytochrome P450, family 7, subfamily b, polypeptide 1 (Cyp7b1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	A cytochrome P450 monooxygenase involved in the metabolism of endogenous oxysterols and steroid hormones, including neurosteroids. 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 (CPR; NADPH-ferrihemoprotein reductase). Catalyzes the hydroxylation of carbon hydrogen bonds of steroids with a preference for 7-alpha position. Usually metabolizes steroids carrying a hydroxy group at position 3, functioning as a 3-hydroxy steroid 7-alpha hydroxylase. Hydroxylates oxysterols, including 25-hydroxycholesterol and (25R)-cholest-5-ene-3beta,26-diol toward 7-alpha hydroxy derivatives, which may be transported to the liver and converted to bile acids. Via its product 7-alpha,25-dihydroxycholesterol, a ligand for the chemotactic G protein-coupled receptor GPR183/EBI2, regulates B cell migration in germinal centers of lymphoid organs, thus guiding efficient maturation of plasma B cells and overall antigen-specific humoral immune response. 7-alpha hydroxylates neurosteroids, including 3beta-hydroxyandrost-5-en-17-one (dehydroepiandrosterone) and pregnenolone, both involved in hippocampus-associated memory and learning. Metabolizes androstanooids toward 6- or 7-alpha hydroxy derivatives.

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Molecular Mass	58.5 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Cyp7b1 cytochrome P450, family 7, subfamily b, polypeptide 1 [Mus musculus (house mouse)]
Official Symbol	Cyp7b1
Synonyms	CYP7B1; cytochrome P450, family 7, subfamily b, polypeptide 1; 25-hydroxycholesterol 7-alpha-hydroxylase; cytochrome P450 7B1; cytochrome P450, 7b1; oxysterol 7-alpha-hydroxylase; hippocampal transcript 1 protein; hct-1; AW261589; D3Ert552e
Gene ID	13123
mRNA Refseq	NM_007825
Protein Refseq	NP_031851

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UniProt ID

Q60991

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