

Recombinant Mouse Cyp27a1 Protein, MYC/DDK-tagged

Cat. No. Cyp27a1-250M **Lot. No.** (See product label)

SPECIFICATION

Product Overview Purified recombinant protein of full-length mouse cytochrome P450, family 27, subfamily a, polypeptide 1 (cDNA clone MGC:7368 IMAGE:3487429), complete cds, with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species Mouse

Source HEK293

Description

Cytochrome P450 monooxygenase that catalyzes regio- and stereospecific hydroxylation of cholesterol and its derivatives. Hydroxylates (with R stereochemistry) the terminal methyl group of cholesterol side-chain in a three step reaction to yield at first a C26 alcohol, then a C26 aldehyde and finally a C26 acid. Regulates cholesterol homeostasis by catalyzing the conversion of excess cholesterol to bile acids via both the 'neutral' (classic) and the 'acid' (alternative) pathways. May also regulate cholesterol homeostasis via generation of active oxysterols, which act as ligands for NR1H2 and NR1H3 nuclear receptors, modulating the transcription of genes involved in lipid metabolism. Plays a role in cholestanol metabolism in the cerebellum. Similarly to cholesterol, hydroxylates cholestanol and may facilitate sterol diffusion through the blood-brain barrier to the systemic circulation for further degradation. Also hydroxylates retinal 7-ketocholesterol, a noxious oxysterol with pro-inflammatory and pro-apoptotic effects, and may play a role in its elimination from the retinal pigment epithelium. May play a redundant role in vitamin D biosynthesis. Catalyzes 25-hydroxylation of vitamin D3 that is required for its conversion to a functionally active form.

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Molecular Mass	50.2 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 ug/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	Cyp27a1 cytochrome P450, family 27, subfamily a, polypeptide 1 [Mus musculus (house mouse)]
Official Symbol	Cyp27a1
Synonyms	Cyp27a1; cytochrome P450, family 27, subfamily a, polypeptide 1; Cyp27; 1300013A03Rik; sterol 26-hydroxylase, mitochondrial; 5-beta-cholestane-3-alpha,7-alpha,12-alpha-triol 26-hydroxylase; 5-beta-cholestane-3-alpha,7-alpha,12-alpha-triol 27-hydroxylase; cholesterol 27 hydroxylase; cytochrome P-450C27/25; cytochrome P450, 27a1; sterol 27-hydroxylase; vitamin D(3) 25-hydroxylase; EC 1.14.15.15
Gene ID	104086
mRNA Refseq	NM_024264
Protein Refseq	NP_077226

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UniProt ID

Q9DBG1

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