Creative Enzymes®

cholestanetriol 26-monooxygenase

Cat. No. EXWM-0940

Lot. No. (See product label)

Introduction

Description This mitochondrial cytochrome P-450 enzyme requires adrenodoxin. It catalyses the first three sterol side chain oxidations in bile acid biosynthesis via the neutral (classic) pathway. Can also act on cholesterol, cholest-5-ene-3β,7α-diol, 7α-hydroxycholest-4-en-3-one, and 5β-cholestane-3α,7α-diol. The enzyme can also hydroxylate cholesterol at positions 24 and 25. The initial source of the electrons is NADPH, which transfers the electrons to the adrenodoxin via EC 1.18.1.6, adrenodoxin-NADP+ reductase.

Synonyms 5β-cholestane-3α,7α,12α-triol 26-hydroxylase; 5β-cholestane-3α,7α,12α-triol hydroxylase; cholestanetriol 26-hydroxylase; sterol 27-hydroxylase; sterol 26-hydroxylase; cholesterol 27-hydroxylase; CYP27A; CYP27A1; cytochrome P450 27A1'

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.14.15.15

CAS No. 52227-77-7

Reaction 5β-cholestane-3α,7α,12α-triol + 6 reduced adrenodoxin + 6 H+ + 3 O2 = (25R)-3α,7α,12α-trihydroxy-5β-cholestan-26-oate + 6 oxidized adrenodoxin + 4 H2O (overall reaction); (1a) 5β-cholestane-3α,7α,12α-triol + 2 reduced adrenodoxin + 2 H+ + O2 = (25R)-5β-cholestane-3α,7α,12α,26-tetraol + 2 oxidized adrenodoxin + H2O; (1b) (25R)-5β-cholestane-3α,7α,12α,26-tetraol + 2 reduced adrenodoxin + 2 H+ + O2 = (25R)-3α,7α,12α-trihydroxy-5β-cholestan-26-al + 2 oxidized adrenodoxin + 2 H2O; (1c) (25R)-3α,7α,12α-trihydroxy-5β-cholestan-26-al + 2 reduced adrenodoxin + 2 H+ + O2 = (25R)-3α,7α,12α-trihydroxy-5β-cholestan-26-oate + 2 oxidized adrenodoxin + H2O

Notes This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.