

cholest-4-en-3-one 26-monooxygenase [(25R)-3-oxocholest-4-en-26-oate forming]

Cat. No. EXWM-0824

Lot. No. (See product label)

Introduction

Description This enzyme, found in several bacterial pathogens, is involved in degradation of the host cholesterol. It catalyses the hydroxylation of the C-26 carbon, followed by oxidation of the alcohol to the carboxylic acid via the aldehyde intermediate, initiating the degradation of the alkyl side-chain of cholesterol. The products are exclusively in the (25R) conformation. The enzyme also accepts cholesterol as a substrate. cf. EC 1.14.13.141, cholest-4-en-3-one 26-monooxygenase. The enzyme can receive electrons from ferredoxin reductase in vitro, its natural electron donor is not known yet.

Synonyms CYP142

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.14.13.221

Reaction $\text{cholest-4-en-3-one} + 3 \text{ NADPH} + 3 \text{ H}^+ + 3 \text{ O}_2 = (25\text{R})\text{-3-oxocholest-4-en-26-oate} + 3 \text{ NADP}^+ + 4 \text{ H}_2\text{O}$ (overall reaction); (1a) $\text{cholest-4-en-3-one} + \text{NADPH} + \text{H}^+ + \text{O}_2 = (25\text{R})\text{-26-hydroxycholest-4-en-3-one} + \text{NADP}^+ + \text{H}_2\text{O}$; (1b) $(25\text{R})\text{-26-hydroxycholest-4-en-3-one} + \text{NADPH} + \text{H}^+ + \text{O}_2 = (25\text{R})\text{-26-oxocholest-4-en-3-one} + \text{NADP}^+ + 2 \text{ H}_2\text{O}$; (1c) $(25\text{R})\text{-26-oxocholest-4-en-3-one} + \text{NADPH} + \text{H}^+ + \text{O}_2 = (25\text{R})\text{-3-oxocholest-4-en-26-oate} + \text{NADP}^+ + \text{H}_2\text{O}$

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 °C for short term. For long term storage, store it at -20 °C~-80 °C.