Creative Enzymes®

ketosteroid monooxygenase

Cat. No. EXWM-0861

Lot. No. (See product label)

Introduction

Description	A single FAD-containing enzyme catalyses three types of monooxygenase (Baeyer-Villiger oxidation) reaction. The oxidative esterification of a number of derivatives of progesterone to produce the corresponding 17α-hydroxysteroid 17-acetate ester, such as testosterone acetate, is shown in Reaction (1). The oxidative lactonization of a number of derivatives of androstenedione to produce the 13,17-secoandrosteno-17,13α-lactone, such as testololactone, is shown in Reaction (2). The oxidative cleavage of the 17β-side-chain of 17α-hydroxyprogesterone to produce androstenedione and acetate is shown in Reaction (3). Reaction (1) is also catalysed by EC 1.14.99.4 (progesterone monooxygenase), and Reactions (2) and (3) correspond to that catalysed by EC 1.14.99.12 (androst-4-ene-3,17-dione monooxygenase). The possibility that a single enzyme is responsible for the reactions ascribed to EC 1.14.99.4 and EC 1.14.99.12 in other tissues cannot be excluded.
Synonyms	steroid-ketone monooxygenase; progesterone, NADPH2:oxygen oxidoreductase (20-hydroxylating, ester-producing); 17α-hydroxyprogesterone, NADPH2:oxygen oxidoreductase (20-hydroxylating, side-chain cleaving); androstenedione, NADPH2:oxygen oxidoreductase (17-hydroxylating, lactonizing)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.14.13.54
CAS No.	9044-53-5
Reaction	a ketosteroid + NADPH + H+ + O2 = a steroid ester/lactone + NADP+ + H2O (general reaction); (1) progesterone + NADPH + H+ + O2 = testosterone acetate + NADP+ + H2O; (2) androstenedione + NADPH + H+ + O2 = testololactone + NADP+ + H2O; (3) 17α-hydroxyprogesterone + NADPH + H+ + O2 = androstenedione + acetate + NADP+ + 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 ℃.