Creative Enzymes®

3β-hydroxy-Δ5-steroid dehydrogenase

Cat. No. EXWM-0049

Lot. No. (See product label)

Introduction

Description	This activity is found in several bifunctional enzymes that catalyse the oxidative conversion of Δ5-3-hydroxy steroids to a Δ4-3-oxo configuration. This conversion is carried out in two separate, sequential reactions; in the first reaction, which requires NAD+, the enzyme catalyses the dehydrogenation of the 3β-hydroxy steroid to a 3-oxo intermediate. In the second reaction the reduced coenzyme, which remains attached to the enzyme, activates the isomerization of the Δ5 form to a Δ4 form (cf. EC 5.3.3.1, steroid Δ-isomerase). Substrates include dehydroepiandrosterone (which is converted into androst-5-ene-3,17-dione), pregnenolone (converted to progesterone) and cholest-5-en-3-one, an intermediate of cholesterol degradation.
Synonyms	progesterone reductase; Δ5-3β-hydroxysteroid dehydrogenase; 3β-hydroxy-5-ene steroid dehydrogenase; 3β-hydroxy steroid dehydrogenase/isomerase; 3β-hydroxy-Δ5-C27-steroid dehydrogenase/isomerase; 3β-hydroxy-Δ5-C27-steroid oxidoreductase; 3β-hydroxy-5-ene-steroid oxidoreductase; steroid-Δ5-3β-ol dehydrogenase; 3β-HSDH; 5-ene-3-β-hydroxysteroid dehydrogenase; 3β-hydroxy-5-ene-steroid dehydrogenase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.1.1.145
CAS No.	9044-85-3
Reaction	a 3β-hydroxy-Δ5-steroid + NAD+ = a 3-oxo-Δ5-steroid + NADH + H+
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 ℃.