Creative Enzymes®

(-)-β-pinene synthase

Cat. No. EXWM-5133

Lot. No. (See product label)

Introduction

Description	Cyclase II of Salvia officinalis (sage) produces about equal parts (-)-α-pinene, (-)-β-pinene and (-)-camphene, plus traces of other monoterpenoids. The enzyme, which requires Mg2+ (preferred to Mn2+), can also use (3S)-Linalyl diphosphate (preferred to (3R)-linalyl diphosphate). The enzyme from Abies grandis (grand fir) produces roughly equal parts of (-)-α-pinene and (-)-β-pinene. Cyclase IV from Pinus contorta (lodgepole pine) produces 63% (-)-β-pinene, 26% 3-carene, and traces of α-pinene. Synthase III from Pinus taeda (loblolly pine) forms (-)-β-pinene with traces of α-pinene and requires Mn2+ and K+ (Mg2+ is ineffective). A cloned enzyme from Artemisia annua (sweet wormwood) gave (-)-β-pinene with traces of (-)-α-pinene. The enzyme from Picea sitchensis (Sika spruce) forms 30% (-)-β-pinene and 70% (-)-α-pinene. See also EC 4.2.3.119, (-)-α-pinene synthase, EC 4.2.3.117, (-)-camphene synthase, and EC 4.2.3.107 (+)-3-carene synthase.
Synonyms	β-geraniolene synthase; (-)-(1S,5S)-pinene synthase; geranyldiphosphate diphosphate lyase (pinene forming)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 4.2.3.120
Reaction	geranyl diphosphate = (-)-β-pinene + diphosphate
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 ℃.