

phenylalanine N-monooxygenase

Cat. No. EXWM-0725

Lot. No. (See product label)

Introduction

Description A heme-thiolate protein (P-450). This enzyme catalyses two successive N-hydroxylations of L-phenylalanine, the first committed steps in the biosynthesis of benzylglucosinolate. The product of the two hydroxylations, N,N-dihydroxy-L-phenylalanine, is extremely labile and dehydrates spontaneously. The dehydrated product is then subject to a decarboxylation that produces the oxime. It is still not known whether the decarboxylation is spontaneous or catalysed by the enzyme. The product, (E)-phenylacetaldoxime, undergoes a spontaneous isomerization to the (Z) form.

Synonyms phenylalanine N-hydroxylase; CYP79A2

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.14.13.124

Reaction L-phenylalanine + 2 O₂ + 2 NADPH + 2 H⁺ = (E)-phenylacetaldoxime + 2 NADP⁺ + CO₂ + 3 H₂O (overall reaction); (1a) L-phenylalanine + O₂ + NADPH + H⁺ = N-hydroxy-L-phenylalanine + NADP⁺ + H₂O; (1b) N-hydroxy-L-phenylalanine + O₂ + NADPH + H⁺ = N,N-dihydroxy-L-phenylalanine + NADP⁺ + H₂O; (1c) N,N-dihydroxy-L-phenylalanine = (E)-phenylacetaldoxime + CO₂ + 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 °C for short term. For long term storage, store it at -20 °C~-80 °C.