

valine N-monooxygenase

Cat. No. EXWM-0718 Lot. No. (See product label)

Introduction	
Synonyms	A heme-thiolate protein (P-450). This enzyme catalyses two successive N- hydroxylations of L-valine, the first committed steps in the biosynthesis of the cyanogenic glucoside linamarin in Manihot esculenta (cassava). The product of the two hydroxylations, N,N-dihydroxy-L-valine, 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)-2-methylpropanal oxime, undergoes a spontaneous isomerization to the (Z) form. The enzyme can also accept L-isoleucine as substrate, with a lower activity. It is different from EC 1.14.13.117 (isoleucine N-monooxygenase), which prefers L-isoleucine. CYP79D1; CYP79D2
oynonymo	
Product Information	
Form	Liquid or lyophilized powder
EC Number	EC 1.14.13.118
Reaction	L-valine + 2 O2 + 2 NADPH + 2 H+ = (E)-2-methylpropanal oxime + 2 NADP+ + CO2 + 3 H2O (overall reaction); (1a) L-valine + O2 + NADPH + H+ = N-hydroxy-L- valine + NADP+ + H2O; (1b) N-hydroxy-L-valine + O2 + NADPH + H+ = N,N- dihydroxy-L-valine + NADP+ + H2O; (1c) N,N-dihydroxy-L-valine = (E)-2- methylpropanal oxime + CO2 + H2O (spontaneous)

Storage and Shipping Information

Storage

Store it at +4 °C for short term. For long term storage, store it at -20 °C~-80 °C.