Creative Enzymes®

acireductone synthase

Cat. No. EXWM-3682

Lot. No. (See product label)

Introduction

Description	This bifunctional enzyme first enolizes the substrate to form the intermediate 2-hydroxy-5-(methylthio)-3-oxopent-1-enyl phosphate, which is then dephosphorylated to form the acireductone 1,2-dihydroxy-5-(methylthio)pent-1-en-3-one. The acireductone represents a branch point in the methione-salvage pathway as it is used in the formation of formate, CO and 3-(methylthio)propanoate by EC 1.13.11.53 [acireductone dioxygenase (Ni2+-requiring)] and of formate and 4-methylthio-2-oxobutanoate either by a spontaneous reaction under aerobic conditions or by EC 1.13.11.54 {acireductone dioxygenase [iron(II)-requiring]}.
Synonyms	E1; E-1 enolase-phosphatase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 3.1.3.77
Reaction	5-(methylthio)-2,3-dioxopentyl phosphate + H2O = 1,2-dihydroxy-5-(methylthio)pent-1-en-3-one + phosphate (overall reaction); (1a) 5-(methylthio)-2,3-dioxopentyl phosphate = 2-hydroxy-5-(methylthio)-3-oxopent-1-enyl phosphate (probably spontaneous); (1b) 2-hydroxy-5-(methylthio)-3-oxopent-1-enyl phosphate + H2O = 1,2-dihydroxy-5-(methylthio)pent-1-en-3-one + phosphate
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 ℃.