Creative Enzymes®

linoleate 8R-lipoxygenase

Cat. No. EXWM-0580

Lot. No. (See product label)

Introduction

Description	The enzyme contains heme. The bifunctional enzyme from Aspergillus nidulans uses different heme domains to catalyse two separate reactions. Linoleic acid is oxidized within the N-terminal heme peroxidase domain to (8R,9Z,12Z)-8-hydroperoxyoctadeca-9,12-dienoate, which is subsequently isomerized by the C-terminal P-450 heme thiolate domain to (5S,8R,9Z,12Z)-5,8-dihydroxyoctadeca-9,12-dienoate (cf. EC 5.4.4.5, 9,12-octadecadienoate 8-hydroperoxide 8R-isomerase). The bifunctional enzyme from Gaeumannomyces graminis also catalyses the oxidation of linoleic acid to (8R,9Z,12Z)-8-hydroperoxyoctadeca-9,12-dienoate, but its second domain isomerizes it to (7S,8S,9Z,12Z)-5,8-dihydroxyoctadeca-9,12-dienoate (cf. EC 5.4.4.6, 9,12-octadecadienoate 8-hydroperoxide 8S-isomerase).
Synonyms	linoleic acid 8R-dioxygenase; 5,8-LDS (bifunctional enzyme); 7,8-LDS (bifunctional enzyme); 5,8-linoleate diol synthase (bifunctional enzyme); 7,8-linoleate diol synthase (bifunctional enzyme); PpoA

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.13.11.60
Reaction	linoleate + O2 = (8R,9Z,12Z)-8-hydroperoxyoctadeca-9,12-dienoate
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 ℃.