Creative Enzymes®

5-(hydroxymethyl)furfural oxidase

Cat. No. EXWM-0420

Lot. No. (See product label)

Introduction

Description	The enzyme, characterized from the bacterium Methylovorus sp. strain MP688, is involved in the degradation and detoxification of 5-(hydroxymethyl)furfural. The enzyme acts only on alcohol groups and requires the spontaneous hydration of aldehyde groups for their oxidation. The enzyme has a broad substrate range that overlaps with EC 1.1.3.7, aryl-alcohol oxidase.

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.1.3.47
Reaction	5-(hydroxymethyl)furfural + 3 O2 + 2 H2O = furan-2,5-dicarboxylate + 3 H2O2 (overall reaction); (1a) 5-(hydroxymethyl)furfural + O2 = furan-2,5-dicarbaldehyde + H2O2; (1b) furan-2,5-dicarbaldehyde + H2O = 5-(dihydroxymethyl)furan-2-carbaldehyde (spontaneous); (1c) 5-(dihydroxymethyl)furan-2-carbaldehyde + O2 = 5-formylfuran-2-carboxylate + H2O2; (1d) 5-formylfuran-2-carboxylate + H2O = 5-(dihydroxymethyl)furan-2-carboxylate (spontaneous); (1e) 5-(dihydroxymethyl)furan-2-carboxylate + O2 = furan-2,5-dicarboxylate + H2O2
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 ℃.