

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

$5\text{-(hydroxymethyl)furfural} + 3\text{ O}_2 + 2\text{ H}_2\text{O} = \text{furan-2,5-dicarboxylate} + 3\text{ H}_2\text{O}_2$ (overall reaction); (1a) $5\text{-(hydroxymethyl)furfural} + \text{O}_2 = \text{furan-2,5-dicarbaldehyde} + \text{H}_2\text{O}_2$; (1b) $\text{furan-2,5-dicarbaldehyde} + \text{H}_2\text{O} = 5\text{-(dihydroxymethyl)furan-2-carbaldehyde}$ (spontaneous); (1c) $5\text{-(dihydroxymethyl)furan-2-carbaldehyde} + \text{O}_2 = 5\text{-formylfuran-2-carboxylate} + \text{H}_2\text{O}_2$; (1d) $5\text{-formylfuran-2-carboxylate} + \text{H}_2\text{O} = 5\text{-(dihydroxymethyl)furan-2-carboxylate}$ (spontaneous); (1e) $5\text{-(dihydroxymethyl)furan-2-carboxylate} + \text{O}_2 = \text{furan-2,5-dicarboxylate} + \text{H}_2\text{O}_2$

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.