

phenylacetaldoxime dehydratase

Cat. No. EXWM-5364

Lot. No. (See product label)

Introduction

Description

The enzyme from *Bacillus* sp. OxB-1 contains protoheme IX, the iron of which must be in the form iron(II) for activity. (Z)-Phenylacetaldoxime binds to ferric heme (the iron(III) form) via the oxygen atom whereas it binds to the active ferrous form via the nitrogen atom. In this way, the oxidation state of the heme controls the coordination structure of the substrate-heme complex, which regulates enzyme activity. The enzyme is active towards several (Z)-arylacetaldoximes and (E/Z)-alkylacetaldoximes as well as towards arylalkylacetaldoximes such as 3-phenylpropionaldoxime and 4-phenylbutyraldoxime. However, it is inactive with phenylacetaldoximes that have a substituent group at an α -site of an oxime group, for example, with (E/Z)-2-phenylpropionaldoxime and (E/Z)-mandelaldoxime. The activity of the enzyme is inhibited completely by the heavy-metal cations Cu^+ , Cu^{2+} , Ag^+ and Hg^+ whereas Fe^{2+} and Sn^{2+} have an activatory effect.

Synonyms

PAOx dehydratase; arylacetaldoxime dehydratase; OxdB; (Z)-phenylacetaldehyde-oxime hydro-lyase

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 4.99.1.7

CAS No.

203210-76-8

Reaction

(Z)-phenylacetaldehyde oxime = phenylacetonitrile + H_2O

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 $+4^\circ\text{C}$ for short term. For long term storage, store it at -20°C ~ -80°C .