

## 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)-alkylaldoximes as well as towards arylalkylaldoximes such as 3-phenylpropionaldoxime and 4-phenylbutyraldoxime. However, it is inactive with phenylacetaldoximes that have a substituent group at an  $\alpha$ -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  $\text{Cu}^+$ ,  $\text{Cu}^{2+}$ ,  $\text{Ag}^+$  and  $\text{Hg}^+$  whereas  $\text{Fe}^{2+}$  and  $\text{Sn}^{2+}$  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 +  $\text{H}_2\text{O}$

**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.