

## 3-chloro-D-alanine dehydrochlorinase

Cat. No. EXWM-5344

Lot. No. (See product label)

### Introduction

#### Description

A pyridoxal-phosphate protein. The enzyme cleaves a carbon-chlorine bond, releasing a chloride and an unstable enamine product that tautomerizes to an imine form, which undergoes a hydrolytic deamination to form pyruvate and ammonia. The latter reaction, which can occur spontaneously, can also be catalysed by EC 3.5.99.10, 2-iminobutanoate/2-iminopropanoate deaminase. The enzyme's activity can also result in  $\beta$ -replacement reactions, e.g. in the presence of hydrogen sulfide it can convert 3-chloro-D-alanine into D-cysteine and chloride.

#### Synonyms

$\beta$ -chloro-D-alanine dehydrochlorinase; 3-chloro-D-alanine chloride-lyase (deaminating)

### Product Information

#### Form

Liquid or lyophilized powder

#### EC Number

EC 4.5.1.2

#### CAS No.

78990-65-5

#### Reaction

3-chloro-D-alanine + H<sub>2</sub>O = pyruvate + chloride + NH<sub>3</sub> (overall reaction); (1a) 3-chloro-D-alanine = chloride + 2-aminoprop-2-enoate; (1b) 2-aminoprop-2-enoate = 2-iminopropanoate (spontaneous); (1c) 2-iminopropanoate + H<sub>2</sub>O = pyruvate + NH<sub>3</sub> (spontaneous)

#### 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.