Creative Enzymes®

# 3-chloro-D-alanine dehydrochlorinase

*Cat. No. EXWM-5344*

*Lot. No.* (See product label)

## Introduction

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| ***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 β-replacement reactions, e.g. in the presence of hydrogen sulfide it can convert 3-chloro-D-alanine into D-cysteine and chloride. |
| ***Synonyms*** | β-chloro-D-alanine dehydrochlorinase; 3-chloro-D-alanine chloride-lyase (deaminating) |

## Product Information

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| ***Form*** | Liquid or lyophilized powder |
| ***EC Number*** | EC 4.5.1.2 |
| ***CAS No.*** | 78990-65-5 |
| ***Reaction*** | 3-chloro-D-alanine + H2O = pyruvate + chloride + NH3 (overall reaction); (1a) 3-chloro-D-alanine = chloride + 2-aminoprop-2-enoate; (1b) 2-aminoprop-2-enoate = 2-iminopropanoate (spontaneous); (1c) 2-iminopropanoate + H2O = pyruvate + NH3 (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

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| ***Storage*** | Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃. |