Creative Enzymes®

# Native Alcaligenes sp. Choline Oxidase

*Cat. No. DIA-184*

*Lot. No.* (See product label)

## Introduction

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| ***Description*** | In enzymology, a choline oxidase (EC 1.1.3.17) is an enzyme that catalyzes the chemical reaction: choline + O2↔ betaine aldehyde + H2O2. Thus, the two substrates of this enzyme are choline and O2, whereas its two products are betaine aldehyde and H2O2. This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-OH group of donor with oxygen as acceptor. |
| ***Applications*** | This enzyme is useful for enzymatic determination of phospholipids when coupled with phospholipase D and for choline esterase-activity in clinical analysis. |
| ***Synonyms*** | choline oxidase; EC 1.1.3.17 |

## Product Information

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| ***Source*** | Alcaligenes sp. |
| ***Appearance*** | Yellowish amorphous powder, lyophilized |
| ***Form*** | Freeze dried powder |
| ***EC Number*** | EC 1.1.3.17 |
| ***CAS No.*** | 9028-67-5 |
| ***Molecular Weight*** | approx. 95 kDa |
| ***Activity*** | GradeIII 10U/mg-solid or more (containing approx. 20% of stabilizers) |
| ***Contaminants*** | Catalase < $1.0\times10^{2}$% |
| ***Isoelectric point*** | 4.1±0.1 |
| ***pH Stability*** | pH 7.0-9.0 (30°C, 2 hr) |
| ***Optimum pH*** | 8.0-8.5 |
| ***Thermal stability*** | below 37°C (pH 7.5, 10min) |
| ***Optimum temperature*** | 40-45°C |
| ***Michaelis Constant*** | $2.84\times10^{-3}$M (Choline), $5.33\times10^{-3}$M(Betaine aldehyde) |
| ***Structure*** | One mol of FAD is covalently bound to mol of the enzyme |
| ***Inhibitors*** | p-Chloromercuribenzoate, $Cu^{++}$, $Co^{++}$, $Hg^{++}$, $Ag^{+}$ |
| ***Stabilizers*** | EDTA, bovine serum albumin, amino acids (glycine, sodium gluta-mate, etc.) |

## Storage and Shipping Information

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| ***Stability*** | Stable at-20°C for at least 6 months |