Creative Enzymes®

Cyclohexanone Monooxygenase from Acinetobacter sp., Recombinant

Cat. No. NATE-0822

Lot. No. (See product label)

Introduction

Description Purified cyclohexanone monooxygenase is a versatile oxygenation catalyst. The enzyme uses the bound FAD-4a-OOH oxygenating intermediate to initiate transfer of oxygen to electrophilic substrate sites. The reaction consequently yields the corresponding sulfoxide and selenoxide products. This enzyme is also capable of oxygenating at nitrogen, trivalent phosphorus, and boron sites in boronic acids. Hence, it is one of the most broad-based flavoprotein oxygenases known.

Applications Cyclohexanone monooxygenase has been used in a study that cloned and overexpressed the 2-oxo-Δ(3)-4,5,5-trimethylcyclopentenylacetyl-CoA monooxygenase (OTEMO) in Escherichia coli. Cyclohexanone monooxygenase has also been used in a study that investigated the effects of structural modification of the cell wall on the biotransformation capability by recombinant Corynebacterium glutamicum cells.

Synonyms yclohexanone 1,2-monooxygenase; cyclohexanone oxygenase; cyclohexanone:NADPH:oxygen oxidoreductase (6-hydroxylating, 1,2-lactonizing); cyclohexanone monooxygenase; EC 1.14.13.22; 52037-90-8; cyclohexanone,NADPH:oxygen oxidoreductase (lactone-forming)

Product Information

Species Acinetobacter sp.

Source E. coli

Form Suspension in 80% saturated ammonium sulfate, 20 mM K-Na-phosphate buffer pH 7, 3.5 mM 1,4-Dithioerythritol (DTE).

EC Number EC 1.14.13.22

CAS No. 52037-90-8

Molecular Weight 59 kDa

Activity >12 U/ml

Unit Definition 1 unit corresponds to the amount of enzyme which catalyzes the cyclohexanone-stimulated oxidation of 1 µmol of NADPH per minute at pH 9.0 and 30 °C.

Storage and Shipping Information

Storage Store at -20°C