Creative Enzymes®

chloride peroxidase

Cat. No. EXWM-0491

Lot. No. (See product label)

Introduction

Description Brings about the chlorination of a range of organic molecules, forming stable C-Cl bonds. Also oxidizes bromide and iodide. Enzymes of this type are either heme-thiolate proteins, or contain vanadate. A secreted enzyme produced by the ascomycetous fungus Caldariomyces fumago (Leptoxyphium fumago) is an example of the heme-thiolate type. It catalyses the production of hypochlorous acid by transferring one oxygen atom from H2O2 to chloride. At a separate site it catalyses the chlorination of activated aliphatic and aromatic substrates, via HClO and derived chlorine species. In the absence of halides, it shows peroxidase (e.g. phenol oxidation) and peroxygenase activities. The latter inserts oxygen from H2O2 into, for example, styrene (side chain epoxidation) and toluene (benzylic hydroxylation), however, these activities are less pronounced than its activity with halides. Has little activity with non-activated substrates such as aromatic rings, ethers or saturated alkanes. The chlorinating peroxidase produced by ascomycetous fungi (e.g. Curvularia inaequalis) is an example of a vanadium chloroperoxidase, and is related to bromide peroxidase (EC 1.11.1.18). It contains vanadate and oxidizes chloride, bromide and iodide into hypohalous acids. In the absence of halides, it peroxygenates organic sulfides and oxidizes ABTS [2,2'-azinobis(3-ethylbenzthiazoline-6-sulfonic acid)] but no phenols.

Synonyms chloroperoxidase; CPO; vanadium haloperoxidase

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.11.1.10

CAS No. 9055-20-3

Reaction RH + chloride + H2O2 = RCl + 2 H2O

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 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.