Creative Enzymes®

Native Horseradish Superoxide Dismutase

Cat. No. NATE-0679

Lot. No. (See product label)

Introduction

Description	Superoxide dismutases (SOD) are enzymes that alternately catalyze the dismutation (or partitioning) of the superoxide (O2−) radical into either ordinary molecular oxygen (O2) or hydrogen peroxide (H2O2). Superoxide is produced as a by-product of oxygen metabolism and, if not regulated, causes many types of cell damage. Hydrogen peroxide is also damaging, but less so, and is degraded by other enzymes such as catalase. Thus, SOD is an important antioxidant defense in nearly all living cells exposed to oxygen. One exception is Lactobacillus plantarum and related lactobacilli, which use a different mechanism to prevent damage from reactive (O2−).
Applications	Superoxide dismutase from horseradish has been used in a study to assess the correlation between CuZn superoxide dismutase and glutathione reductase, and environmental and xenobiotic stress tolerance in maize inbreds. Superoxide dismutase from horseradish has also been used in a study to investigate chemiluminometric enzyme sensors for flow-injection analysis.
Synonyms	EC 1.15.1.1; 9054-89-1; SOD; Superoxide:superoxide oxidoreductase; Superoxide Dismutase

Product Information

Source	Horseradish
Form	Lyophilized powder containing potassium phosphate buffer salts
EC Number	EC 1.15.1.1
CAS No.	9054-89-1
Activity	1,000-4,000 units/mg protein
Composition	Protein, > 70% biuret
Unit Definition	One unit will inhibit reduction of cytochrome c by 50% in a coupled system with xanthine oxidase at pH 7.8 at 25°C in a 3.0 mL reaction volume. Xanthine oxidase concentration should produce an initial ΔA550 of 0.025 ± 0.005 per min.

Storage and Shipping Information

Stability	−20°C