Creative Enzymes®

Native Canine Superoxide Dismutase

Cat. No. NATE-0677

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−).
Synonyms	EC 1.15.1.1; 9054-89-1; SOD; Superoxide:superoxide oxidoreductase; Superoxide Dismutase

Product Information

Species	Canine
Source	canine erythrocytes
Form	lyophilized powder
EC Number	EC 1.15.1.1
CAS No.	9054-89-1
Molecular Weight	mol wt ~31.2 kDa (two identical subunits)
Activity	2,000-6,000 units/mg protein
Composition	Protein, > 90% biuret
Buffer	Lyophilized powder containing potassium phosphate buffer salts
Pathway	Amyotrophic lateral sclerosis (ALS), organism-specific biosystem; Huntington's disease, organism-specific biosystem; Peroxisome, organism-specific biosystem
Function	metal ion binding; superoxide dismutase activity
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