

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 (O_2^-) radical into either ordinary molecular oxygen (O_2) or hydrogen peroxide (H_2O_2). 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 (O_2^-).

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 ΔA_{550} of 0.025 ± 0.005 per min.

Storage and Shipping Information

Stability

-20°C