Creative Enzymes®

Native Bovine Superoxide Dismutase

Cat. No. NATE-0676

Lot. No. (See product label)

Introduction

Description	Superoxide dismutase (SOD) catalyzes the dismutation of superoxide radicals to hydrogen peroxide and molecular oxygen. SOD plays a critical role in the defense of cells against the toxic effects of oxygen radicals. SOD competes with nitric oxide (NO) for superoxide anion (which reacts with NO to form peroxynitrite), thereby SOD promotes the activity of NO. SOD has also been shown to suppress apoptosis in cultured rat ovarian follicles, neural cell lines, and transgenic mice by preventing the conversion of NO to peroxynitrate, an inducer of apoptosis.
Applications	Superoxide dismutase from bovine liver has been used in a study to determine that hypercholesterolemia increases endothelial superoxide anion production. Superoxide dismutase from bovine liver has also been used in a study to investigate diazo coupling, subunit interactions and electrophoretic variants of bovine erythr ocyte superoxide dismutase.
Synonyms	Superoxide dismutases; EC 1.15.1.1; superoxidase dismutase; copper-zinc superoxide dismutase; Cu-Zn superoxide dismutase; ferrisuperoxide dismutase; superoxide dismutase I; superoxide dismutase II; SOD; Cu,Zn-SOD; Mn-SOD; Fe-SOD; SODF; SODS; SOD-1; SOD-2; SOD-3; SOD-4; hemocuprein; erythrocuprein; cytocuprein; cuprein ; hepatocuprein; 9054-89-1

Product Information

Species	Bovine
Source	Bovine liver
Form	Type I, Lyophilized powder containing potassium phosphate buffer salts; Type II, ammonium sulfate suspension, Suspension in 3.8 M (NH4)2SO4, pH 7.0.
EC Number	EC 1.15.1.1
CAS No.	9054-89-1
Molecular Weight	mol wt 32.5 kDa
Activity	Type I, > 1500 units/mg protein; Type II, 2 ,000-6 ,000 units/mg protein (biuret).
Function	chaperone binding; copper ion binding; ubiquitin-protein transferase 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

Storage	−20°C