Creative Enzymes®

Native Escherichia coli Superoxide Dismutase

Cat. No. NATE-0678

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	The Cu,Zn superoxide dismutase from Escherichia coli retains monomeric structure at high protein concentration, which could be applied towards future assessments of altered subunit interaction in all the bacteri ocupreins. Superoxide dismutase from Escherichia coli has also been used in a study to investigate the superoxide anion participattion in 2-oxoglutarate-dependent hydroxylation.
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

Source	Escherichia coli
Form	Lyophilized powder containing Tris buffer salts
EC Number	EC 1.15.1.1
CAS No.	9054-89-1
Molecular Weight	mol wt 32.5 kDa
Activity	> 1 ,000 units/mg protein
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