

Native Baker's yeast (*S. cerevisiae*) Glutathione Reductase

Cat. No. NATE-0317

Lot. No. (See product label)

Introduction

Description Glutathione reductase (GR) is a crucial flavoenzyme in the antioxidant defense system. Reduced glutathione (GSH) is used by glutathione peroxidase to detoxify hydrogen peroxide and in the process is converted to oxidized glutathione (GSSG). The GSSG is then recycled back to GSH by glutathione reductase (GR) using NADPH that is then converted to NADP⁺. The regenerated GSH is then available to detoxify more hydrogen peroxide. The enzyme uses FAD as a cofactor. GR and glutathione peroxidase may inhibit lipid peroxidation by functioning as antioxidant enzymes in sperm. Glutathione reductase shares a structural motif with a number of other proteins including aspartyl proteases, Citrate synthase, EF hands, hemoglobins, lipectalins, and α/β hydrolases. GR is stimulated by melatonin and is reportedly irreversibly inhibited by a number of oxygen radical generating systems.

Synonyms EC 1.6.4.2; 9001-48-3; Glutathione Reductase; GR; glutathione reductase; glutathione reductase (NADPH); NADPH-glutathione reductase; GSH reductase; GSSG reductase; NADPH-GSSG reductase; glutathione S-reductase; NADPH:oxidized-glutathione oxidoreductase

Product Information

Source	Baker's yeast (<i>S. cerevisiae</i>)
Form	ammonium sulfate suspension; Suspension in 3.6 M (NH ₄) ₂ SO ₄ , pH 7.0, containing 0.1 mM dithiothreitol
EC Number	EC 1.6.4.2
CAS No.	9001-48-3
Molecular Weight	mol wt 118 kDa
Activity	100-300 units/mg protein (biuret)
Function	NADP binding; flavin adenine dinucleotide binding; glutathione-disulfide reductase activity
Unit Definition	One unit will reduce 1.0 μ mole of oxidized glutathione per min at pH 7.6 at 25°C.

Storage and Shipping Information

Storage 2-8°C