Creative Enzymes®

Native Wheat germ Glutathione Reductase

Cat. No. NATE-0319

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 precess 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, lipecalins, 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	Wheat germ
EC Number	EC 1.6.4.2
CAS No.	9001-48-3
Molecular Weight	mol wt 118 kDa
Activity	> 0.08 units/mg protein
Unit Definition	One unit will reduce 1.0 µmole of oxidized glutathione per min at pH 7.6 at 25°C. (Protein determined by biuret).

Storage and Shipping Information

Storage	−20°C