

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 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, lipocalins, 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 μ mole of oxidized glutathione per min at pH 7.6 at 25°C. (Protein determined by biuret).

Storage and Shipping Information

Storage

-20°C