

Native Spinach Glutathione Reductase

Cat. No. NATE-0318

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

Spinach

Form

ammonium sulfate suspension; Suspension in 3.6 M (NH₄)₂SO₄ mM, 10 mM potassium phosphate, pH 7.0

EC Number

EC 1.6.4.2

CAS No.

9001-48-3

Molecular Weight

mol wt 118 kDa

Activity

100-200 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

2-8°C