

## 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<sup>+</sup>. 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  $\alpha/\beta$  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  $\mu$ mole of oxidized glutathione per min at pH 7.6 at 25°C. (Protein determined by biuret).

### Storage and Shipping Information

**Storage** -20°C