

BIOXYTECH® GSH-400™

Colorimetric Assay for Glutathione

For Research Use Only. Not For Use In Diagnostic Procedures.

Catalog No. 21011

INTRODUCTION

Glutathione (gamma-glutamylcysteinylglycine or GSH) is a naturally occurring tripeptide whose nucleophilic and reducing properties play a central role in metabolic pathways, as well as in the antioxidant system of most aerobic cells. (Dolphin, 1989). GSH plays a critical role as a coenzyme with a variety of enzymes including, glutathione peroxidase, glutathione S-transferase and thiol transferase. GSH also plays major roles in drug metabolism, calcium metabolism, the gamma-glutamyl cycle, blood platelet and membrane functions. In addition, GSH is crucial to a variety of life processes, including the detoxification of xenobiotics, maintenance of the -SH level of proteins, thiol-disulfide exchange, removal of hydroperoxides and free radicals, and amino acid transport across membranes. Physiological values of intracellular GSH generally range from 1 to 10 mM. Although many methods have been described for the assay of GSH, the reliable ones are labor intensive and not easy to use (Anderson, 1989).

Catalog Number:	21011
Methodology:	Colorimetric
Specimen Requirements	Cell or tissue homogenates
Specificity	Specific for glutathione. Proteins should be precipitated prior to assay because they will cause falsely elevated values of glutathione. Excess cysteine, such as found in cell culture supernates, can interfere.
Sensitivity	5 µM in the final reaction mixture, 17 µM in the sample
Assay Standard Curve Range	20-100 µM
Expected Values	Intracellular: 0.5-5 mM
Tests per Kit	100 tests
Storage and Stability	Twelve months from date of manufacture when stored at 2° - 8° C
Kit Contents	<ul style="list-style-type: none">• 1 X 5.5 mL chromogenic reagent• 1 X 20 mL 30% NaOH• 1 X 100 mL buffer