NutriPATH
Integrative Pathology Services

Glutathione

Glutathione (GSH) is a powerful antioxidant that is decreased with the aging process. Given the essential roles of GSH in detoxification, free radical protection, immune function regulation, and maintenance of protein structure, function and turnover, it has been suggested that GSH levels in the body may serve as a useful indicator of disease risk in humans. GSH levels are lower in many conditions associated with oxidative stress such as aging, Alzheimer's disease, autism, cancer, heart attack, pulmonary disease, and diabetes. Assessing GSH concentrations through the red cell test offered by NutriPATH, and using this diagnostic tool to monitor GSH in response to therapies, may be useful for preventative medicine and the optimisation of health.

Table 1: Conditions Associated with Reduced Levels of Glutathione	
Aging	Increased morbidity
Alzheimer's disease	Genetically inherited deficiencies
Autism	Liver Cirrhosis
Cancer	Neurological symptoms
Cataracts	Pancreatitis
Crohn's disease	Parkinson's disease
Diabetes	Pulmonary Disease; COPD, Asthma, acute respiratory distress syndrome (ARDS), neonatal lung damage
Gastritis	Stroke
Heart attack	Wilson's disease

Oxidative Stress

A growing body of evidence suggests that oxidative stress and a reduction of antioxidant activity may play an important part in the aging process. Cardiovascular disease, cancer, Alzheimer's disease, and cataracts are just some of the conditions that occur when the balance of free radicals to antioxidants becomes disturbed. Oxidative stress is defined as a condition characterised by the release of free radicals. These oxidative molecules can directly modify genetic material, oxidize lipids and cell membranes, and damage proteins; all ultimately leading to tissue breakdown, oncogenesis, inflammation, accelerated again and disease. Antioxidants are substances that provide protection from endogenous and exogenous oxidative stresses. The physiological role of antioxidants is therefore to prevent cellular damage arising as a consequence of chemical reactions involving free radicals.

Glutathione

Glutathione (GSH) is a powerful antioxidant that is decreased with the aging process. GSH and oxidized glutathione (GSSG) is the major redox couple that determines the antioxidative capacity of cells. Reduced glutathione (GSH) is made up of three amino acids; glutamine, cysteine and glycine, and therefore is technically named N-L-gamma-glutamyl-cysteinyl glycine. GSH is the smallest intracellular thiol molecule; it contains a sulfhydryl (-SH) group on the cysteinyl portion which gives GSH its strong antioxidant properties.

NutriPATH Glutathione Testing & Preventative Medicine

Given the essential roles of GSH in detoxification, free radical protection, immune function regulation, and maintenance of protein structure, function and turnover, it has been suggested that GSH levels in the body may serve as a useful indicator of disease risk in humans. GSH levels are known to be lower in many conditions particularly those associated with oxidative stress. Examples include aging, Alzheimer's disease, autism, cancer, heart attack, pulmonary disease, and diabetes (see Table 1). Assessing GSH concentrations through the red cell test offered by NutriPATH, and using this diagnostic tool to monitor GSH in response to therapies, may be useful for preventative medicine and the optimisation of health.

Test Preparation

We suggest that you discuss with your healthcare practitioner whether you need to discontinue any nutritional supplements or medications prior to collecting your specimen.

- It may be appropriate to discontinue supplements for at least 24 hours before collection if you are using the test for baseline purposes.
- It may be inappropriate to discontinue supplements if the purpose of the test is to test supplemented levels.

The assessment of red cell glutathione levels may be inappropriate for individuals with anemia, as this measure may not be a good indicator of body levels of this antioxidant for those with this condition.

Result Turnaround Time:

Up to one week after receipt of sample and test fee payment to NutriPATH.

How to order a test kit:

Phone Customer Service on 1300 688 522.

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Phone 1300 688 522 for further details

www.nutripath.com.au