GOVITA LABORATORY

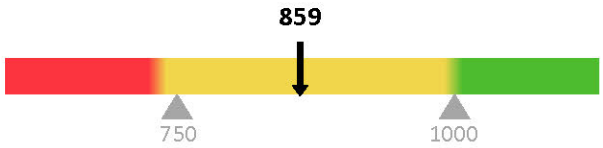
Glutathione Assay Report

Report Info:	
Number:	
Provider:	Govita Laboratory
Clinical Info:	IMI
Others:	NA

Customer Info:	
Name:	
Age:	54
Gender:	M
Customer ID:	

Sample Collection:	
Sample Type:	DBS
Collection Date:	
Samples Arrived:	
Results Reported:	

Name	Abbreviation	Results (µmol/L)	Reference range (µmol/L)
reduced glutathione	GSH	859	>750



Legend:

- Your result
- Low health risk
- Moderate health risk
- High health risk

Glutathione Assay Report

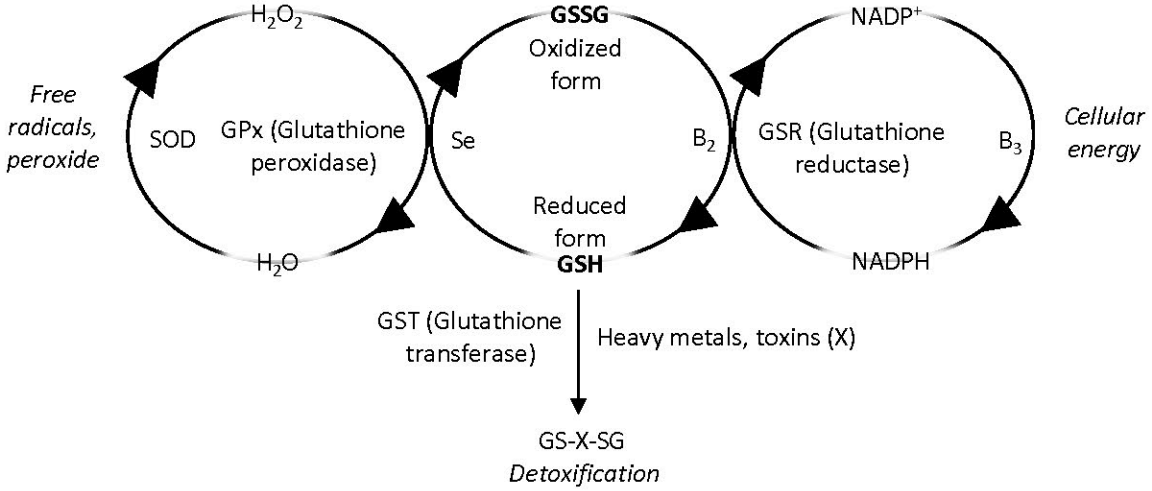


Figure 1. Glutathione Biosynthesis and Detoxification Pathway

What is oxidative stress?

Oxidative stress is caused due to an imbalance between production of reactive oxygen species (free radicals) and effectiveness of antioxidant defense. Reactive oxygen species (ROS) play a crucial role in cell signaling, however when the balance between ROS production and consumption is disrupted, it can lead to cell damage. Oxidative stress can cause damage to DNA, proteins and lipids. Reactive oxygen species are produced by electron leak from aerobic respiration by mitochondria. Enzymes like NADPH oxidases, xanthine oxidases, cytochrome P450 and other oxidases also produce ROS. There are enzymes and molecules in the body that serve as antioxidants such as superoxide dismutase (SOD), catalase, glutathione peroxidase and glutathione which removes ROS molecules from the living system.

How do levels of glutathione change during oxidative stress?

Reduced glutathione, a key and most abundant antioxidant provides reducing equivalents in form of free thiol groups. Glutathione exist in reduced (GSH) and oxidized (GSSG; glutathione disulphide) forms in cells and tissues. The majority glutathione exist in reduced form (GSH) in healthy cells. GSH provides reducing equivalents to antioxidant enzymes, hydroxyl radicals, ROS and is itself oxidized to GSSG; therefore GSH:GSSG ratio is critical indicator of the health of cell. During oxidative stress there is decrease in levels of GSH and increase in levels of GSSG and thus GSH:GSSG ratio decreases. Impaired GSH function is associated with work pressure, environmental contaminants, chronic accumulation of many toxic elements (including mercury, lead, arsenic and cadmium), chemicals and drugs.

Reviewed by:

Signed by:

Note:
Test means assay, no clinical diagnosis is provided by Govita Laboratory.
Reference range is based on 90% of the healthy population.
Always seek the advice of trained health professional for medical advice, diagnosis or treatment.
Govita Laboratory reserves the right to adjust the biological reference range based on regular review.
Elevated analytes levels may be influenced by certain supplements and insufficient fasting.