OxisResearch™

Bioxytech® Assay Systems

Antioxidant Biomarkers
Superoxide Dismutase
Total Glutathione
Glutathione
Glutathione Peroxidase (Cellular)
Glutathione Peroxidase (Plasma)
Glutathione Reductase
GSH/GSSG Ratio

Nitric Oxide Biomarkers
Nitric Oxide (Enzymatic)
Nitric Oxide (Non-Enzymatic)
Nitric Oxide Synthase (Radioactive)
Nitric Oxide Synthase (Colorimetric)

Oxidative Biomarkers
MDA
Total Lipid Hydroperoxides
8-Isoprostane
Hydrogen Peroxide
8-Hydroxydeoxyguanosine
Aconitase

Inflammatory Biomarkers
Myeloperoxidase
Lactoferrin

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***Oxis*Research™ is a division of *OXIS* Health Products Inc.**

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ANTIOXIDANT BIOMARKERS

GSH/GSSG-412 ASSAY SYSTEM

NEW!

OxisResearch™

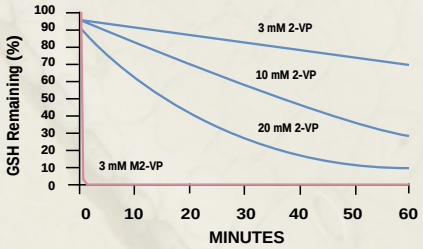
Your Source for Oxidative Stress Products and Services

ANTIOXIDANT BIOMARKERS

GSH/GSSG-412 ASSAY SYSTEM

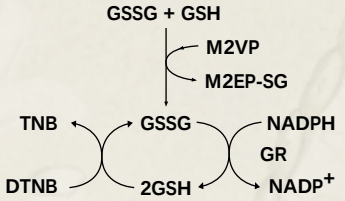
Catalog Number: 21040

OXIS Research™ has developed an improved method[1] to measure the ratio of reduced to oxidized glutathione (GSH/GSSG). This method features a more efficient mercaptan scavenger, 1-methyl-2-vinyl-pyridinium trifluoromethanesulfonate (M2VP)[2], to trap GSH. The figure below compares the scavenging abilities of the commonly used 2-vinylpyridine with the OXIS M2VP reagent. One can easily see that M2VP is many times more effective in removing reduced GSH (99% within 1 minute) when compared to the 2VP reagent (11.7% within 1 minute).

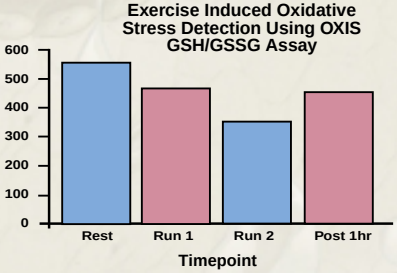


The increased scavenging capability of the OXIS M2VP reagent allows for more accurate measurement of small amounts of GSSG without the fear of overestimation.

The test method is based on the DTNB-GSSG reductase recycling assay for GSH first described by Tietze in 1969. The method employs glutathione reductase to ensure all GSH is in the reduced form capable of reacting with DTNB (also called Ellman's reagent) to form a spectrophotometrically detectable product at 412 nm.



The data below represents a study that was done using the OXIS GSH/GSSG-412™ assay. During a segmented charity run, whole blood was sampled from healthy OXIS volunteers. Blood was collected, with and without the OXIS M2VP GSH scavenging reagent, and tested with the GSH/GSSG-412™ assay. Note the decreasing ratio as subject undergoes progressively more strenuous exercise. Also note the ratio recovery after a 1 hour rest period. This data represents the utility of the GSH/GSSG-412™ assay in effectively assessing oxidative stress relative to the glutathione system.



The GSH/GSSG-412™ assay system contains reagents suitable for 100 tests representing the ratio of total glutathione to the oxidized form or 200 tests of either. For information on this and any other product available from OXIS Research™ please contact us.

[1] Patent Pending

[2] US Patent 5,543,298.

PRODUCT SUMMARY

Catalog Number: 21040

Intended Use:

Quantitative measurement of total gluthathione (GSH plus GSSG) and/or oxidized glutathione (GSSG) alone. This assay allows for determination of the GSH/GSSG ratio.

Format:

100 test spectrophotometric cuvette (ratio)
or
200 test spectrophotometric cuvette (GSH or GSSG)

Kit Contents:

- Assay Buffer
- GSSG Buffer
- Enzyme
- NADPH
- Scavenger
- Chromogen
- Standards

Storage and Stability:

12 Months from Date of Manufacture
when stored as specified

Specimen Requirements:

Whole blood or Tissue Samples

Precision:

	GSSG in Buffer		Whole blood	
	High	Low	GSH	GSSG
MeanRate at A412	0.4194	0.0427	0.2938	0.00490
Intra-assay (%CV)	**0.59**	**3.50**	**0.96**	**6.45**
Inter-assay (%CV)	**2.84**	**2.96**	**3.11**	**7.61**
Total Precision (%CV)	**2.87**	**3.86**	**3.18**	**8.86**

Sensitivity:

LLD in uM reaction mixture = 0.009
LLD in uM original sample = 0.54