

# The Bastyr University Research Institute

## Oxidative Stress Testing Services

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### Oxidative stress assays services provided:

**Urine 15- isoprostane-F<sub>2t</sub>.** Isoprostanes are produced by free-radical mediated peroxidation of membrane phospholipids and lipoproteins, and measurement of 15- isoprostane-F<sub>2t</sub> is widely recognized as a reliable biomarker of oxidative stress. Sample type: 0.5 ml frozen urine sample. Testing Services price: \$22.07/sample

**Urine Creatinine test.** Used to normalize for urine dilutions for Urine Isoprostanes 15- isoprostane-F<sub>2t</sub> tests or other urine tests. Sample type: 0.5 ml frozen urine sample. Testing Service price: \$8:00/sample.

**TBARS.** The Thiobarbituric Acid Reactive Substances test is one of the most sensitive tests for oxidative stress. It measures levels of malondialdehyde derived from non-enzymatic lipid peroxidation of unsaturated fatty acids. Sample types: minimum 250 µl EDTA-plasma, citrate-plasma, heparin plasma, serum, saliva, CSF, tissue supernatants, cell culture lysates. Testing Services price: \$ 10.10/sample.

**Total Antioxidant Status.** The total antioxidant status in serum or plasma measures the overall antioxidant defense of the organism, which is due to the combined activity of antioxidant Vitamins, Uric Acid, reduced glutathione, antioxidant enzymes, and is inversely correlated with levels of oxidative stress. Samples types: minimum 0.5 µl of frozen serum, heparin-plasma, citrate-plasma. Testing Services price \$ 20.00/sample.

**Haptoglobin phenotyping.** Haptoglobin (Hp) protects from oxidative stress by binding to free Hemoglobin. The human polymorphic Hp 1-1, Hp 2-1, Hp 2-2 serum Haptoglobin forms are structurally and functionally different. Different Hp phenotypes are associated with increased risk of vascular disease, diabetes complications, epilepsy, Parkinson's disease, and other conditions. Sample type: Minimum 50 µl human serum or plasma. Testing Services price: \$13.41/sample

**Haptoglobin genotyping.** We have developed a simple genotyping method for the 1,700 bp Hp gene duplication for the reliable determination of Hp 1-1, 2-1, and 2-2 type from DNA samples. Sample type: human DNA, whole blood, DNA-containing cells such as mononuclear cells or buccal cells. Testing Services price \$ 12.67/sample

**GSH/GSSG.** Levels of reduced glutathione (GSH) and the ratio between reduced and oxidized glutathione (GSH/GSSG) are valuable indicators of the redox status of a cell. A kinetic colorimetric method is used for their determination. Sample type: Red Blood Cells, 150 ul volume. Some processing at the time of blood draw is required. Testing Services price: \$40.00 GSH test. \$40.00 GSSG test. GSH/GSSG ratio = \$80.00/sample

**Oxidized LDLs.** The oxidative conversion of low density lipoproteins (LDLs) to oxidized low density lipoproteins (Oxidized LDLs) is a key event in the development of atherosclerosis and increased levels of the oxLDLs is a useful indicator of increased lipid peroxidation in diabetes and other conditions. Sample type: 0.5 ml EDTA-plasma. Testing Services price \$ 39.74/sample

**For inquiries on additional tests available and information on samples collection and storage contact Dr. Costa-Mallen at 425-602-3425 or by e-mail at [pcostamallen@bastyr.edu](mailto:pcostamallen@bastyr.edu)**