Determination of reduced and oxidized glutathione in biological samples using liquid chromatography with fluorimetric detection

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#	Paper	IF	Citations
120	Electroanalysis of Plant Thiols. **2007**, 7, 932-959		51
119	A novel metallobridged bis(beta-cyclodextrin)s fluorescent probe for the determination of glutathione. **2008**, 275, 1510-1517		16
118	Simultaneous determination of oxidized and reduced glutathione in eel (Monopterus albus) plasma by transient pseudoisotachophoresis coupled with capillary zone electrophoresis. **2008**, 56, 368-73		7
117	Quantification of plasma reduced glutathione, oxidized glutathione and plasma total glutathione in healthy cats. **2008**, 10, 230-4		3
116	Determination of Vitamin C (Ascorbic Acid) Using High Performance Liquid Chromatography Coupled with Electrochemical Detection. **2008**, 8, 7097-7112		69
115	Voltammetric sensor for glutathione determination based on ferrocene-modified carbon paste electrode. **2009**, 13, 1411-1416		58
114	Recent advances in separation and detection methods for thiol compounds in biological samples. **2009**, 877, 3318-30		140
113	Electrocatalytic oxidation of glutathione at carbon paste electrode modified with 2,7-bis (ferrocenyl ethyl) fluoren-9-one: application as a voltammetric sensor. **2009**, 39, 1169-1175		55
112	Mechanisms participating in oxidative damage of isolated rat hepatocytes. **2009**, 83, 363-72		14
111	Determination of glutathione and glutathione disulfide in biological samples: an in-depth review. **2009**, 877, 3331-46		188
110	Oxidation of melatonin by AAPH-derived peroxyl radicals: evidence of a pro-oxidant effect of melatonin. **2009**, 1790, 787-92		14
109	Voltammetric measurement of trace amount of glutathione using multiwall carbon nanotubes as a sensor and chlorpromazine as a mediator. **2010**, 14, 1415-1423		67
108	Validated spectrofluorimetric method for the determination of lamotrigine in tablets and human plasma through derivatization with o-phthalaldehyde. **2010**, 20, 463-72		27
107	Pro-oxidant activity of apocynin radical. **2010**, 48, 1636-43		46
106	Inhibitory effect of gallic acid and its esters on 2,2azobis(2-amidinopropane)hydrochloride (AAPH)-induced hemolysis and depletion of intracellular glutathione in erythrocytes. **2010**, 58, 5355-62		46
105	Yeast dynamic metabolic flux measurement in nutrient-rich media by HPLC and accelerator mass spectrometry. **2010**, 82, 9812-7		13
104	Integration of a precolumn fluorogenic reaction, separation, and detection of reduced glutathione. **2010**, 82, 7267-73		20

103	Ag+ and cysteine quantitation based on G-quadruplex-hemin DNAzymes disruption by Ag+. **2010**, 82, 789-93	180
102	The toxic effect of thioacetamide on rat liver in vitro. **2010**, 24, 2097-103	49
101	Determination of intracellular glutathione and glutathione disulfide using high performance liquid chromatography with acidic potassium permanganate chemiluminescence detection. **2011**, 136, 2578-85	64
100	Functional nucleic acid-based electrochemiluminescent biosensor for interaction study and detection of Ag+ ions and cysteine. **2011**, 47, 12304-6	33
99	Direct detection of biologically significant thiols and disulfides with manganese(IV) chemiluminescence. **2011**, 83, 6034-9	55
98	Evaluation of Glutathione Status in Aquatic Organisms. **2011**, 381-388	5
97	Multi-wall carbon nanotubes as a sensor and ferrocene dicarboxylic acid as a mediator for voltammetric determination of glutathione in hemolysed erythrocyte. **2011**, 3, 2637	60
96	Exposure to waterborne copper reveals differences in oxidative stress response in three freshwater fish species. **2011**, 103, 112-20	117
95	Deteriorating effect of fluvastatin on the cholestatic liver injury induced by bile duct ligation in rats. **2011**, 30, 66-74	3
94	Is rat liver affected by non-alcoholic steatosis more susceptible to the acute toxic effect of thioacetamide?. **2011**, 92, 281-9	14
93	A colorimetric and ratiometric fluorescent probe for quantitative detection of GSH at physiologically relevant levels. **2011**, 159, 142-147	40
92	Quantitation of the glutathione in human peripheral blood by matrix-assisted laser desorption ionization time-of-flight mass spectrometry coupled with micro-scale derivatization. **2011**, 690, 209-14	16
91	Determination of glutathione and glutathione disulfide in human whole blood using HPLC with coulometric detection: A comparison with fluorescence detection. **2011**, 76, 277-294	3
90	Automated Derivatization of Pharmaceutically Active Thiols Under Flow Conditions Using an o-Phthalaldehyde/Glycine Fluorogenic System and Sequential Injection Analysis. **2011**, 44, 2530-2542	3
89	Low-level environmental exposure to lead and renal adverse effects: a cross-sectional study in the population of children bordering the Mbeubeuss landfill near Dakar, Senegal. **2012**, 31, 1280-91	19
88	Chronic anthracycline cardiotoxicity: molecular and functional analysis with focus on nuclear factor erythroid 2-related factor 2 and mitochondrial biogenesis pathways. **2012**, 343, 468-78	39
87	Relationship between physicochemical characterization and toxicity of fine particulate matter (PM2.5) collected in Dakar city (Senegal). **2012**, 113, 1-13	58
86	Prooxidant and proinflammatory potency of air pollution particulate matter (PM□□) produced in rural, urban, or industrial surroundings in human bronchial epithelial cells (BEAS-2B). **2012**, 25, 904-19	102

85	2-Bromo-1,4-naphthoquinone: a potentially improved substitute of menadione in Apatone therapy. **2012**, 45, 701-10		9
84	Voltammetric determination of glutathione in haemolysed erythrocyte and tablet samples using modified-multiwall carbon nanotubes paste electrode. **2012**, 4, 978-85		23
83	Spectrofluorimetric determination of oseltamivir phosphate through derivatization with o-phthalaldehyde. Application to pharmaceutical preparations with a preliminary study on spiked plasma samples. **2012**, 27, 511-8		12
82	Assessment of reduced glutathione: comparison of an optimized fluorometric assay with enzymatic recycling method. **2012**, 423, 236-40		21
81	Susceptibility of rat non-alcoholic fatty liver to the acute toxic effect of acetaminophen. **2012**, 27, 323-30		27
80	Neuroprotective effect of blackberry (Rubus sp.) polyphenols is potentiated after simulated gastrointestinal digestion. *Food Chemistry*, **2012**, 131, 1443-1452	8.5	88
79	Multiwall carbon nanotube paste electrode with 3,4-dihydroxy-cinnamic acid as mediator for the determination of glutathione in pharmaceutical and urine samples. **2013**, 34, 1883-1889		27
78	Early and delayed cardioprotective intervention with dexrazoxane each show different potential for prevention of chronic anthracycline cardiotoxicity in rabbits. **2013**, 311, 191-204		20
77	Enhanced cytotoxicity of pentachlorophenol by perfluorooctane sulfonate or perfluorooctanoic acid in HepG2 cells. **2013**, 93, 2101-7		25
76	Detection of cellular glutathione and oxidized glutathione using magnetic-plasmonic nanocomposite-based "turn-off" surface enhanced Raman scattering. **2013**, 85, 9221-8		108
75	A new strategy for the selective determination of glutathione in the presence of nicotinamide adenine dinucleotide (NADH) using a novel modified carbon nanotube paste electrode. **2013**, 104, 186-93		65
74	Enzymatic product-mediated stabilization of CdS quantum dots produced in situ: application for detection of reduced glutathione, NADPH, and glutathione reductase activity. **2013**, 85, 5542-6		54
73	Neuroprotective effects of digested polyphenols from wild blackberry species. **2013**, 52, 225-36		53
72	Cholestatic effect of epigallocatechin gallate in rats is mediated via decreased expression of Mrp2. **2013**, 303, 9-15		25
71	AN ASSAY OF TOTAL GLUTATHIONE AND GLUTATHIONE DISULFIDE IN HUMAN WHOLE BLOOD AND PLASMA USING A HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY WITH FLUORESCENCE DETECTION. **2013**, 36, 2013-2028		4
70	Deferoxamine but not dexrazoxane alleviates liver injury induced by endotoxemia in rats. **2014**, 42, 372-9		15
69	Assay of total glutathione and glutathione disulphide in seminal plasma of male partners of couples presenting for a fertility evaluation. **2014**, 46, 1079-88		5
68	Determination of reduced glutathione, cystein and total thiols in pine pollen powder by in situ derivatization. **2014**, 112, 1-6		4

67	Analytical methods involving separation techniques for determination of low-molecular-weight biothiols in human plasma and blood. **2014**, 964, 103-15	85
66	A high sensitive biosensor based on FePt/CNTs nanocomposite/N-(4-hydroxyphenyl)-3,5-dinitrobenzamide modified carbon paste electrode for simultaneous determination of glutathione and piroxicam. **2014**, 60, 1-7	248
65	Electrochemical Detection of Glutathione Using a Poly(caffeic acid) Nanocarbon Composite Modified Electrode. **2014**, 26, 366-373	55
64	Nanostructure-based electrochemical sensor for determination of glutathione in hemolysed erythrocytes and urine. **2014**, 69, 892-898	4
63	Low-molecular-weight thiols in plants: functional and analytical implications. **2014**, 560, 83-99	47
62	Determination of total glutathione in earthworms by ultra-high performance liquid chromatography with fluorescence detection. **2014**, 6, 4353-4359	2
61	Different effects of two cyclic chalcone analogues on redox status of Jurkat T cells. **2014**, 28, 1359-65	13
60	Role of Glutathione in Abiotic Stress Tolerance. **2014**, 149-181	9
59	Mass spectrometry based detection of glutathione with sensitivity for single-cell analysis. **2015**, 29, 681-9	30
58	A Voltammetric Sensor Based on Multiwalled Carbon Nanotubes and a New Azoferrocene Derivative for Determination of Glutathione. **2015**, 15, 4472-4479	12
57	Application of carbon nanotube□onic liquid□pinephrine composite gel modified electrode as a sensor for glutathione. **2015**, 757, 198-202	12
56	Effects of engineered iron nanoparticles on the bryophyte, Physcomitrella patens (Hedw.) Bruch & Schimp, after foliar exposure. **2015**, 113, 499-505	25
55	Azinphos-methyl and chlorpyrifos, alone or in a binary mixture, produce oxidative stress and lipid peroxidation in the freshwater gastropod Planorbarius corneus. **2015**, 167, 12-9	34
54	Effects of environmental cadmium and lead exposure on adults neighboring a discharge: Evidences of adverse health effects. **2015**, 206, 247-55	51
53	Boldine enhances bile production in rats via osmotic and farnesoid X receptor dependent mechanisms. **2015**, 285, 12-22	17
52	Glutathione. **2015**, 40, 43-158	25
51	A direct comparison of methods used to measure oxidized glutathione in biological samples: 2-vinylpyridine and N-ethylmaleimide. **2015**, 25, 589-95	33
50	A novel electrocatalyst with high sensitivity in detecting glutathione reduced by 2-hydroxypropyl-□yclodextrin enveloped 10-methylphenothiazine. **2015**, 5, 71749-71755	5

49	[(p-MeC6H4Pr)2Ru2(SC6H4-p-Bu)3]Cl (diruthenium-1), a dinuclear arene ruthenium compound with very high anticancer activity: An in vitro and in vivo study. **2015**, 782, 42-51		22
48	A high sensitive electrochemical nanosensor for simultaneous determination of glutathione, NADH and folic acid. **2015**, 47, 77-84		40
47	A Differential Pulse Voltammetric Sensor for Determination of Glutathione in Real Samples Using a Trichloro(terpyridine)ruthenium(III)/Multiwall Carbon Nanotubes Modified Paste Electrode. **2015**, 15, 483-490		14
46	Protective Effect of a (Poly)phenol-Rich Extract Derived from Sweet Cherries Culls against Oxidative Cell Damage. *Molecules*, **2016**, 21, 406	4.8	26
45	Exercise-induced protection against reperfusion arrhythmia involves stabilization of mitochondrial energetics. **2016**, 310, H1360-70		28
44	A Direct Comparison of Metabolic Responses to High-Fat Diet in C57BL/6J and C57BL/6NJ Mice. **2016**, 65, 3249-3261		63
43	Simultaneous assessment of endogenous thiol compounds by LC-MS/MS. **2016**, 1029-1030, 213-221		22
42	Targeted Expression of Catalase to Mitochondria Protects Against Ischemic Myopathy in High-Fat Diet-Fed Mice. **2016**, 65, 2553-68		31
41	Can saliva testing replace blood measurements for health monitoring? Insights from a correlation study of salivary and whole blood glutathione in humans. **2016**, 141, 4707-12		15
40	A review on the latest developments in nanostructure-based electrochemical sensors for glutathione. **2016**, 8, 1745-1754		29
39	Pitfalls in the analysis of the physiological antioxidant glutathione (GSH) and its disulfide (GSSG) in biological samples: An elephant in the room. **2016**, 1019, 21-8		68
38	The ratio of oxidized and reduced forms of selected antioxidants as a possible marker of oxidative stress in humans. **2016**, 30, 13-28		20
37	Comparison of cellular and transcriptomic effects between electronic cigarette vapor and cigarette smoke in human bronchial epithelial cells. **2017**, 45, 417-425		44
36	Voltammetric determination of reduced glutathione using poly(thionine) as a mediator in the presence of Fenton-type reaction. *Talanta*, **2017**, 170, 399-405	6.2	10
35	Effect of reactive oxygen species on quality maintenance of broccoli florets with electrostatic atomized water particle treatment. *Food Chemistry*, **2017**, 237, 749-755	8.5	11
34	The superoxide dismutase mimetic tempol does not alleviate glucocorticoid-mediated rarefaction of rat skeletal muscle capillaries. **2017**, 5, e13243		4
33	Graphene Quantum Dots Anchored Gold Nanorods for Electrochemical Detection of Glutathione. **2017**, 2, 4744-4752		8
32	Methylene blue photodynamic therapy induces selective and massive cell death in human breast cancer cells. **2017**, 17, 194		79

31	HPLC Determination of Bioactive Sulfur Compounds, Amino Acids and Biogenic Amines in Biological Specimens. **2017**, 975 Pt 1, 535-549		9
30	Colorimetric detection of glutathione based on phthalic acid assisted synthesis of silver nanoparticles. **2017**, 533, 125-132		21
29	Assessment of glutathione/glutathione disulphide ratio and S-glutathionylated proteins in human blood, solid tissues, and cultured cells. **2017**, 112, 360-375		77
28	A sensitive and selective colorimetric sensor for reduced glutathione detection based on silver triangular nanoplates conjugated with gallic acid. **2018**, 541, 36-42		13
27	Expression of the methionine sulfoxide reductase lost during evolution extends Drosophila lifespan in a methionine-dependent manner. **2018**, 8, 1010		10
26	17β-Estradiol Directly Lowers Mitochondrial Membrane Microviscosity and Improves Bioenergetic Function in Skeletal Muscle. **2018**, 27, 167-179.e7		76
25	Chemical analysis in saliva and the search for salivary biomarkers - a tutorial review. **2017**, 143, 81-99		76
24	Turn-On Fluorescence Detection of Glutathione Based on o-Phthaldialdehyde-Assisted SiO2 Particles. **2018**, 2018, 1-9		2
23	Impact of 17β-estradiol on complex I kinetics and HO production in liver and skeletal muscle mitochondria. **2018**, 293, 16889-16898		19
22	A core-shell MWCNT@rGONR heterostructure modified glassy carbon electrode for ultrasensitive electrochemical detection of glutathione. **2018**, 274, 433-440		17
21	Impact of Intravenous Iron on Oxidative Stress and Mitochondrial Function in Experimental Chronic Kidney Disease. **2019**, 8,		10
20	The fatty acid derivative palmitoylcarnitine abrogates colorectal cancer cell survival by depleting glutathione. *American Journal of Physiology - Cell Physiology*, **2019**, 317, C1278-C1288	5.4	2
19	A novel bimacrocyclic polyamine-based fluorescent probe for sensitive detection of Hg and glutathione in human serum. *Talanta*, **2020**, 207, 120311	6.2	17
18	Measurement of Glutathione as a Tool for Oxidative Stress Studies by High Performance Liquid Chromatography. *Molecules*, **2020**, 25,	4.8	6
17	A peroxidase mimetic protects skeletal muscle cells from peroxide challenge and stimulates insulin signaling. *American Journal of Physiology - Cell Physiology*, **2020**, 318, C1214-C1225	5.4	0
16	Adaptation of Mitochondrial Substrate Flux in a Mouse Model of Nonalcoholic Fatty Liver Disease. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	3
15	Fluorometric Optimized Determination of Total Glutathione in Erythrocytes. *Separations*, **2021**, 8, 83	3.1	0
14	Western Diet Decreases the Liver Mitochondrial Oxidative Flux of Succinate: Insight from a Murine NAFLD Model. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	1

13	The facile synthesis of nitrogen and sulfur co-doped carbon dots for developing a powerful "on-off-on" fluorescence probe to detect glutathione in vegetables. *Food Chemistry*, **2022**, 372, 131142	8.5	5
12	Isocitrate-to-SENP1 signaling amplifies insulin secretion and rescues dysfunctional β cells. *Journal of Clinical Investigation*, **2015**, 125, 3847-60	15.9	109
11	The influence of storage age on iron status, oxidative stress and antioxidant protection in paediatric packed cell units. *Blood Transfusion*, **2014**, 12, 210-9	3.6	23
10	The effect of rat strain, diet composition and feeding period on the development of a nutritional model of non-alcoholic fatty liver disease in rats. *Physiological Research*, **2011**, 60, 317-28	2.1	33
9	A monitoring of allantoin, uric acid, and malondialdehyde levels in plasma and erythrocytes after ten minutes of running activity. *Physiological Research*, **2014**, 63, 753-62	2.1	15
8	Combined and modular approaches for multicomponent monitoring of indoor air pollutants. *Applied Spectroscopy Reviews*, 1-37	4.5	3
7	Improvement of the Clinical and Psychological Profile of Patients with Autism after Methylcobalamin Syrup Administration. *Nutrients*, **2022**, 14, 2035	6.7	1
6	Development and Validation of Novel UV Spectroscopy Method for the Estimation of L-Glutathione in Bulk and Formulation with Congo Red. *Asian Journal of Pharmaceutical Analysis*, **2022**, 78-82	2.3	
5	Determination of glutathione in blood via capillary electrophoresis with pH-mediated stacking. *Electrophoresis*,	3.6	
4	Dual-emission fluorescent probe for discriminative sensing of biothiols. **2022**, 50, 100153		0
3	A nanosecond pulsed laser-ablated MWCNT-Au heterostructure: an innovative ultra-sensitive electrochemical sensing prototype for the identification of glutathione. **2022**, 147, 3894-3907		0
2	Glutathione for Food and Health Applications with Emphasis on Extraction, Identification, and Quantification Methods: A Review. **2023**, 13, 465		0
1	Simultaneous quantitation of oxidized and reduced glutathione via LC-MS/MS to study the redox state and drug-mediated modulation in cells, worms and animal tissue. **2023**, 1225, 123742		0