# Bengt Mannervik

## List of Publications by Citations



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| 261 papers | 14,678 citations | 54 h-index | 113 g-index |
| 264 ext. papers | 15,349 ext. citations | 4.3 avg, IF | 6.17 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 261 | Glutathione reductase. *Methods in Enzymology*, **1985**, 113, 484-90 | 1.7 | 1998 |
| 260 | Glutathione transferases--structure and catalytic activity. *Critical Reviews in Biochemistry*, **1988**, 23, 283-337 | | 1432 |
| 259 | Glutathione transferase (human placenta). *Methods in Enzymology*, **1981**, 77, 231-5 | 1.7 | 490 |
| 258 | Structure determination and refinement of human alpha class glutathione transferase A1-1, and a comparison with the Mu and Pi class enzymes. *Journal of Molecular Biology*, **1993**, 232, 192-212 | 6.5 | 428 |
| 257 | 4-Hydroxyalk-2-enals are substrates for glutathione transferase. *FEBS Letters*, **1985**, 179, 267-70 | 3.8 | 353 |
| 256 | The isoenzymes of glutathione transferase. *Advances in Enzymology and Related Areas of Molecular Biology*, **1985**, 57, 357-417 | | 348 |
| 255 | Human glutathione transferase A4-4: an alpha class enzyme with high catalytic efficiency in the conjugation of 4-hydroxynonenal and other genotoxic products of lipid peroxidation. *Biochemical Journal*, **1998**, 330 ( Pt 1), 175-9 | 3.8 | 319 |
| 254 | Glutathione transferases catalyse the detoxication of oxidized metabolites (o-quinones) of catecholamines and may serve as an antioxidant system preventing degenerative cellular processes. *Biochemical Journal*, **1997**, 324 ( Pt 1), 25-8 | 3.8 | 281 |
| 253 | Nomenclature for mammalian soluble glutathione transferases. *Methods in Enzymology*, **2005**, 401, 1-8 | 1.7 | 236 |
| 252 | Glutathione transferases: nomenclature. *Biochemical Pharmacology*, **1984**, 33, 2539-40 | 6 | 233 |
| 251 | Design and evolution of new catalytic activity with an existing protein scaffold. *Science*, **2006**, 311, 535-8 | 33.3 | 213 |
| 250 | Glutathione transferases from human liver. *Methods in Enzymology*, **1985**, 113, 499-504 | 1.7 | 182 |
| 249 | Structural analysis of human alpha-class glutathione transferase A1-1 in the apo-form and in complexes with ethacrynic acid and its glutathione conjugate. *Structure*, **1995**, 3, 717-27 | 5.2 | 176 |
| 248 | Human glutathione transferase A4-4 crystal structures and mutagenesis reveal the basis of high catalytic efficiency with toxic lipid peroxidation products. *Journal of Molecular Biology*, **1999**, 288, 427-39 | 6.5 | 165 |
| 247 | Structure-activity relationships and thermal stability of human glutathione transferase P1-1 governed by the H-site residue 105. *Journal of Molecular Biology*, **1998**, 278, 687-98 | 6.5 | 156 |
| 246 | Crystal structure of human glyoxalase II and its complex with a glutathione thiolester substrate analogue. *Structure*, **1999**, 7, 1067-78 | 5.2 | 152 |
| 245 | Human glutathione transferase A3-3, a highly efficient catalyst of double-bond isomerization in the biosynthetic pathway of steroid hormones. *Journal of Biological Chemistry*, **2001**, 276, 33061-5 | 5.4 | 146 |

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| 244 | Rat glutathione transferase 8-8, an enzyme efficiently detoxifying 4-hydroxyalk-2-enals. *FEBS Letters*, **1986**, 203, 207-9 | 3.8 | 138 |
| 243 | Purification and characterization of cytoplasmic thioltransferase (glutathione:disulfide oxidoreductase) from rat liver. *Biochemistry*, **1978**, 17, 2978-84 | 3.2 | 130 |
| 242 | Regression analysis, experimental error, and statistical criteria in the design and analysis of experiments for discrimination between rival kinetic models. *Methods in Enzymology*, **1982**, 87, 370-90 | 1.7 | 128 |
| 241 | Phospholipid hydroperoxide glutathione peroxidase activity of human glutathione transferases. *Biochemical Journal*, **1998**, 332 ( Pt 1), 97-100 | 3.8 | 125 |
| 240 | Purification of major basic glutathione transferase isoenzymes from rat liver by use of affinity chromatography and fast protein liquid chromatofocusing. *Analytical Biochemistry*, **1985**, 146, 313-20 | 3.1 | 124 |
| 239 | Purification of a new glutathione S-transferase (transferase mu) from human liver having high activity with benzo(alpha)pyrene-4,5-oxide. *Biochemical and Biophysical Research Communications*, **1981**, 98, 512-9 | 3.4 | 116 |
| 238 | Glutathione transferases in rat lung: the presence of transferase 7-7, highly efficient in the conjugation of glutathione with the carcinogenic (+)-7 beta, 8 alpha-dihydroxy-9 alpha, 10 alpha-oxy-7,8,9,10-tetrahydrobenzo[a]pyrene. *Carcinogenesis*, **1986**, 7, 295-9 | 4.6 | 112 |
| 237 | Human class Mu glutathione transferases, in particular isoenzyme M2-2, catalyze detoxication of the dopamine metabolite aminochrome. *Journal of Biological Chemistry*, **1997**, 272, 5727-31 | 5.4 | 104 |
| 236 | Glutathione conjugation of bay- and fjord-region diol epoxides of polycyclic aromatic hydrocarbons by glutathione transferases M1-1 and P1-1. *Chemical Research in Toxicology*, **1997**, 10, 1221-7 | 4 | 102 |
| 235 | Expression of class Pi glutathione transferase in human malignant melanoma cells. *Carcinogenesis*, **1987**, 8, 1929-32 | 4.6 | 98 |
| 234 | Synthesis and characterization of a series of highly fluorogenic substrates for glutathione transferases, a general strategy. *Journal of the American Chemical Society*, **2011**, 133, 14109-19 | 16.4 | 97 |
| 233 | Divergent activities of human glutathione transferases in the bioactivation of azathioprine. *Molecular Pharmacology*, **2006**, 70, 747-54 | 4.3 | 96 |
| 232 | Glutathione transferases with novel active sites isolated by phage display from a library of random mutants. *Journal of Molecular Biology*, **1995**, 250, 115-22 | 6.5 | 94 |
| 231 | Glutathione transferase from rat testis. *Methods in Enzymology*, **1985**, 113, 507-10 | 1.7 | 94 |
| 230 | Glyoxalase I, a zinc metalloenzyme of mammals and yeast. *Biochemical and Biophysical Research Communications*, **1978**, 81, 1235-40 | 3.4 | 94 |
| 229 | Mutation of an evolutionarily conserved tyrosine residue in the active site of a human class Alpha glutathione transferase. *FEBS Letters*, **1991**, 293, 153-5 | 3.8 | 92 |
| 228 | Glutathione transferase M2-2 catalyzes conjugation of dopamine and dopa o-quinones. *Biochemical and Biophysical Research Communications*, **2000**, 274, 32-6 | 3.4 | 91 |
| 227 | Purification of glutathione S-transferases from rat lung by affinity chromatography. Evidence for an enzyme form absent in rat liver. *Biochemical and Biophysical Research Communications*, **1979**, 86, 1304-10 | 3.4 | 80 |

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| 226 | Glutathione S-transferase A1-1-catalysed conjugation of bay and fjord region diol epoxides or polycyclic aromatic hydrocarbons with glutathione. *Carcinogenesis*, **1996**, 17, 1491-8 | 4.6 | 79 |
| 225 | Identification of residues in glutathione transferase capable of driving functional diversification in evolution. A novel approach to protein redesign. *Journal of Biological Chemistry*, **2003**, 278, 8733-8 | 5.4 | 77 |
| 224 | Inhibitors for distinction of three types of human glutathione transferase. *FEBS Letters*, **1985**, 181, 249-52 | 3.8 | 75 |
| 223 | Differences among human tumor cell lines in the expression of glutathione transferases and other glutathione-linked enzymes. *Carcinogenesis*, **1990**, 11, 1569-76 | 4.6 | 73 |
| 222 | Conjugation of highly reactive aflatoxin B1 exo-8,9-epoxide catalyzed by rat and human glutathione transferases: estimation of kinetic parameters. *Biochemistry*, **1997**, 36, 3056-60 | 3.2 | 72 |
| 221 | The enzymes of glutathione metabolism: an overview. *Biochemical Society Transactions*, **1987**, 15, 717-8 | 5.1 | 69 |
| 220 | Involvement of an active-site Zn2+ ligand in the catalytic mechanism of human glyoxalase I. *Journal of Biological Chemistry*, **1998**, 273, 21623-8 | 5.4 | 66 |
| 219 | Molecular cloning, heterologous expression, and characterization of human glyoxalase II. *Journal of Biological Chemistry*, **1996**, 271, 319-23 | 5.4 | 64 |
| 218 | Purification of glutathione-S-transferase from human placenta. *Acta Chemica Scandinavica*, **1979**, 33, 595-6 | | 63 |
| 217 | Inhibition of glutathione S-transferases by antimalarial drugs possible implications for circumventing anticancer drug resistance. *International Journal of Cancer*, **2002**, 97, 700-5 | 7.5 | 61 |
| 216 | Acquired resistance to cisplatin and doxorubicin in a small cell lung cancer cell line is correlated to elevated expression of glutathione-linked detoxification enzymes. *Carcinogenesis*, **1994**, 15, 1167-73 | 4.6 | 60 |
| 215 | Error structure of enzyme kinetic experiments. Implications for weighting in regression analysis of experimental data. *FEBS Journal*, **1976**, 69, 61-7 | | 60 |
| 214 | A branching reaction mechanism of glutathione reductase. *Biochemical and Biophysical Research Communications*, **1973**, 53, 1151-8 | 3.4 | 59 |
| 213 | Benzo(alpha)pyrene quinones can be generated by lipid peroxidation and are conjugated with glutathione by glutathione S-transferase b from rat liver. *Biochemical and Biophysical Research Communications*, **1981**, 99, 682-90 | 3.4 | 58 |
| 212 | Characterization of glyoxalase I purified from pig erythrocytes by affinity chromatography. *Biochemical Journal*, **1977**, 165, 503-9 | 3.8 | 58 |
| 211 | Purification and characterization of glutathione reductase from calf liver. An improved procedure for affinity chromatography on 2$5SADP-Sepharose 4B. *Analytical Biochemistry*, **1981**, 116, 531-6 | 3.1 | 56 |
| 210 | Selective expression of glutathione transferase isoenzymes in chemically induced preneoplastic rat hepatocyte nodules. *FEBS Letters*, **1985**, 187, 115-20 | 3.8 | 55 |
| 209 | Heterologous expression of recombinant human glutathione transferase A1-1 from a hepatoma cell line. *Protein Expression and Purification*, **1992**, 3, 80-4 | 2 | 54 |

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| 208 | Leukotriene C4 formation catalyzed by three distinct forms of human cytosolic glutathione transferase. *Biochemical and Biophysical Research Communications*, **1985**, 128, 265-70 | 3.4 | 54 |
| 207 | Structural evidence for three different types of glutathione transferase in human tissues. *FEBS Letters*, **1985**, 182, 319-22 | 3.8 | 54 |
| 206 | Molecular enzymology of the glyoxalase system. *Drug Metabolism and Drug Interactions*, **2008**, 23, 13-27 | | 53 |
| 205 | Mechanism of action of enzymes catalyzing thiol-disulfide interchange. Thioltransferases rather than transhydrogenases. *FEBS Letters*, **1974**, 38, 263-7 | 3.8 | 53 |
| 204 | Inhibition of choline acetyltransferase from bovine caudate nucleus by sulfhydryl reagents and reactivation of the inhibited enzyme. *Biochemical Pharmacology*, **1970**, 19, 2509-16 | 6 | 53 |
| 203 | A semisynthetic glutathione peroxidase with high catalytic efficiency. Selenoglutathione transferase. *Chemistry and Biology*, **2002**, 9, 789-94 | | 52 |
| 202 | Evolution of differential substrate specificities in Mu class glutathione transferases probed by DNA shuffling. *Journal of Molecular Biology*, **1999**, 287, 265-76 | 6.5 | 52 |
| 201 | A set of inhibitors for discrimination between the basic isozymes of glutathione transferase in rat liver. *Biochemical and Biophysical Research Communications*, **1983**, 114, 829-34 | 3.4 | 52 |
| 200 | Glutathione transferase: new model for glutathione activation. *Chemistry - A European Journal*, **2008**, 14, 9591-8 | 4.8 | 51 |
| 199 | Functional role of the lock and key motif at the subunit interface of glutathione transferase p1-1. *Journal of Biological Chemistry*, **2004**, 279, 9586-96 | 5.4 | 50 |
| 198 | The C-terminal region of human glutathione transferase A1-1 affects the rate of glutathione binding and the ionization of the active-site Tyr9. *Biochemistry*, **1999**, 38, 16268-75 | 3.2 | 50 |
| 197 | Optimized heterologous expression of the human zinc enzyme glyoxalase I. *Biochemical Journal*, **1996**, 314 ( Pt 2), 463-7 | 3.8 | 50 |
| 196 | Glutathione transferase mu 2 protects glioblastoma cells against aminochrome toxicity by preventing autophagy and lysosome dysfunction. *Autophagy*, **2014**, 10, 618-30 | 10.2 | 49 |
| 195 | Kinetic characterization of recombinant human glutathione transferase T1-1, a polymorphic detoxication enzyme. *Archives of Biochemistry and Biophysics*, **1997**, 348, 247-54 | 4.1 | 49 |
| 194 | Mechanism-based phage display selection of active-site mutants of human glutathione transferase A1-1 catalyzing SNAr reactions. *Biochemistry*, **1997**, 36, 11252-60 | 3.2 | 49 |
| 193 | Transmutation of human glutathione transferase A2-2 with peroxidase activity into an efficient steroid isomerase. *Journal of Biological Chemistry*, **2002**, 277, 30019-22 | 5.4 | 47 |
| 192 | Transformation of leukotriene A4 methyl ester to leukotriene C4 monomethyl ester by cytosolic rat glutathione transferases. *FEBS Letters*, **1984**, 175, 289-93 | 3.8 | 47 |
| 191 | Tyrosine 50 at the subunit interface of dimeric human glutathione transferase P1-1 is a structural key residue for modulating protein stability and catalytic function. *Biochemical and Biophysical Research Communications*, **2000**, 271, 59-63 | 3.4 | 46 |

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| 190 | An essential role of cytosolic thioltransferase in protection of pyruvate kinase from rabbit liver against oxidative inactivation. *FEBS Letters*, **1983**, 152, 114-8 | 3.8 | 46 |
| 189 | New crystal structures of human glutathione transferase A1-1 shed light on glutathione binding and the conformation of the C-terminal helix. *Acta Crystallographica Section D: Biological Crystallography*, **2006**, 62, 197-207 | | 45 |
| 188 | Active-site residues governing high steroid isomerase activity in human glutathione transferase A3-3. *Journal of Biological Chemistry*, **2002**, 277, 16648-54 | 5.4 | 44 |
| 187 | The role of glutathione in the isomerization of delta 5-androstene-3,17-dione catalyzed by human glutathione transferase A1-1. *Journal of Biological Chemistry*, **2001**, 276, 11698-704 | 5.4 | 44 |
| 186 | Glyoxalase I (rat liver). *Methods in Enzymology*, **1981**, 77, 297-301 | 1.7 | 44 |
| 185 | Reduction of thymine hydroperoxide by phospholipid hydroperoxide glutathione peroxidase and glutathione transferases. *FEBS Letters*, **1997**, 410, 210-2 | 3.8 | 43 |
| 184 | Yeast glyoxalase I is a monomeric enzyme with two active sites. *Journal of Biological Chemistry*, **2001**, 276, 1845-9 | 5.4 | 43 |
| 183 | Cloning, sequencing, and regulation of the glutathione reductase gene from the cyanobacterium Anabaena PCC 7120. *Journal of Biological Chemistry*, **1995**, 270, 22882-9 | 5.4 | 42 |
| 182 | Purification of glyoxalase I from human erythrocytes by the use of affinity chromatography and separation of the three isoenzymes. *Analytical Biochemistry*, **1979**, 92, 390-3 | 3.1 | 42 |
| 181 | Molecular cloning and characterization of the thiolesterase glyoxalase II from Arabidopsis thaliana. *Biochemical Journal*, **1997**, 322 ( Pt 2), 449-54 | 3.8 | 41 |
| 180 | Use of silent mutations in cDNA encoding human glutathione transferase M2-2 for optimized expression in Escherichia coli. *Protein Expression and Purification*, **1999**, 17, 105-12 | 2 | 41 |
| 179 | Glutathione transferase isoenzymes from rat liver cytosol. *Methods in Enzymology*, **1985**, 113, 504-7 | 1.7 | 41 |
| 178 | The steady-state kinetics of glyoxalase I from porcine erythrocytes. Evidence for a random-pathway mechanism involving one- and two-substrate branches. *FEBS Journal*, **1973**, 37, 270-81 | | 40 |
| 177 | Effect of chronic hypoxia on detoxication enzymes in rat liver. *Biochemical Pharmacology*, **1992**, 43, 242166 | | 39 |
| 176 | Cytosolic rat liver glutathione transferase 4-4. Primary structure of the protein reveals extensive differences between homologous glutathione transferases of classes alpha and mu. *FEBS Journal*, **1986**, 156, 343-50 | | 39 |
| 175 | Mechanism of the glutathione transferase-catalyzed conversion of antitumor 2-crotonyloxymethyl-2-cycloalkenones to GSH adducts. *Journal of the American Chemical Society*, **2003**, 125, 15049-58 | 16.4 | 38 |
| 174 | The folding and stability of human alpha class glutathione transferase A1-1 depend on distinct roles of a conserved N-capping box and hydrophobic staple motif. *Journal of Biological Chemistry*, **2001**, 276, 32177-83 | 5.4 | 38 |
| 173 | The cyclopentenone product of lipid peroxidation, 15-A(2t)-isoprostane (8-isoprostaglandin A(2)), is efficiently conjugated with glutathione by human and rat glutathione transferase A4-4. *Chemical Research in Toxicology*, **2002**, 15, 1114-8 | 4 | 38 |

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| 172 | Chromosomal localization of human glutathione transferase genes of classes alpha, mu and pi. *Human Genetics*, **1989**, 82, 338-42 | 6.3 | 38 |
| 171 | The amount and nature of glutathione transferases in rat liver microsomes determined by immunochemical methods. *FEBS Letters*, **1983**, 160, 264-8 | 3.8 | 38 |
| 170 | Glutathione transferase-M2-2 secreted from glioblastoma cell protects SH-SY5Y cells from aminochrome neurotoxicity. *Neurotoxicity Research*, **2015**, 27, 217-28 | 4.3 | 37 |
| 169 | Detoxication of carcinogenic fjord-region diol epoxides of polycyclic aromatic hydrocarbons by glutathione transferase P1-1 variants and glutathione. *FEBS Letters*, **1998**, 438, 206-10 | 3.8 | 37 |
| 168 | Structural basis for featuring of steroid isomerase activity in alpha class glutathione transferases. *Journal of Molecular Biology*, **2010**, 397, 332-40 | 6.5 | 36 |
| 167 | Examination of the transcription factor NtcA-binding motif by in vitro selection of DNA sequences from a random library. *Journal of Molecular Biology*, **2000**, 301, 783-93 | 6.5 | 36 |
| 166 | Partial purification and characterization of glyoxalase I from porcine erythrocytes. *FEBS Journal*, **1972**, 29, 276-81 | | 36 |
| 165 | Enzymatic detoxication, conformational selection, and the role of molten globule active sites. *Journal of Biological Chemistry*, **2013**, 288, 18599-611 | 5.4 | 35 |
| 164 | The polymorphic human glutathione transferase T1-1, the most efficient glutathione transferase in the denitrosation and inactivation of the anticancer drug 1,3-bis(2-chloroethyl)-1-nitrosourea. *Biochemical Pharmacology*, **2002**, 63, 191-7 | 6 | 35 |
| 163 | Organ distribution of glutathione transferase isoenzymes in the human fetus: differences between liver and extrahepatic tissues. *Biochemical Pharmacology*, **1986**, 35, 1616-9 | 6 | 35 |
| 162 | Probing the active site of glyoxalase I from human erythrocytes by use of the strong reversible inhibitor S-p-bromobenzylglutathione and metal substitutions. *Biochemical Journal*, **1981**, 197, 67-75 | 3.8 | 35 |
| 161 | Catalytic and molecular properties of glyoxalase I. *Biochemical Society Transactions*, **1993**, 21, 515-7 | 5.1 | 34 |
| 160 | A steady-state kinetic model of butyrylcholinesterase from horse plasma. *Biochemical Journal*, **1974** , 141, 825-34 | 3.8 | 34 |
| 159 | FDA-approved drugs and other compounds tested as inhibitors of human glutathione transferase P1-1. *Chemico-Biological Interactions*, **2013**, 205, 53-62 | 5 | 33 |
| 158 | The conserved N-capping box in the hydrophobic core of glutathione S-transferase P1-1 is essential for refolding. Identification of a buried and conserved hydrogen bond important for protein stability. *Journal of Biological Chemistry*, **1997**, 272, 25518-23 | 5.4 | 33 |
| 157 | Benzoic acid derivatives induce recovery of catalytic activity in the partially inactive Met208Lys mutant of human glutathione transferase A1-1. *Journal of Molecular Biology*, **1999**, 288, 787-800 | 6.5 | 33 |
| 156 | Purification of glutathione reductase from erythrocytes by the use of affinity chromatography on 2$ 5SADP-Sepharose 4-B. *FEBS Letters*, **1976**, 66, 221-4 | 3.8 | 33 |
| 155 | Structural basis of the suppressed catalytic activity of wild-type human glutathione transferase T1-1 compared to its W234R mutant. *Journal of Molecular Biology*, **2006**, 355, 96-105 | 6.5 | 32 |

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| 154 | A conserved "hydrophobic staple motif" plays a crucial role in the refolding of human glutathione transferase P1-1. *Journal of Biological Chemistry*, **2000**, 275, 10421-8 | 5.4 | 32 |
| 153 | Differences in the occurrence of glutathione transferase isoenzymes in rat lung and liver. *Biochemical and Biophysical Research Communications*, **1985**, 127, 80-6 | 3.4 | 30 |
| 152 | Mutagenesis of residue 157 in the active site of human glyoxalase I. *Biochemical Journal*, **1997**, 328 ( Pt 1), 231-5 | 3.8 | 29 |
| 151 | Synthesis and characterization of 6-chloroacetyl-2-dimethylaminonaphthalene as a fluorogenic substrate and a mechanistic probe for glutathione transferases. *Analytical Biochemistry*, **2002**, 311, 171-8 | 3.1 | 29 |
| 150 | An ensemble of theta class glutathione transferases with novel catalytic properties generated by stochastic recombination of fragments of two mammalian enzymes. *Journal of Molecular Biology*, **2002**, 318, 59-70 | 6.5 | 29 |
| 149 | An essential histidine residue in the catalytic mechanism of mammalian glutathione reductase. *Biochemical and Biophysical Research Communications*, **1978**, 83, 558-64 | 3.4 | 29 |
| 148 | Purification of glutathione reductase from porcine erythrocytes by the use of affinity chromatography on 2Ş 5SADP-Sepharose 4B and crystallization of the enzyme. *Analytical Biochemistry*, **1979**, 98, 335-40 | 3.1 | 29 |
| 147 | Five decades with glutathione and the GSTome. *Journal of Biological Chemistry*, **2012**, 287, 6072-83 | 5.4 | 28 |
| 146 | Isoenzyme-specific quantitative immunoassays for cytosolic glutathione transferases and measurement of the enzymes in blood plasma from cancer patients and in tumor cell lines. *Biochimica Et Biophysica Acta - Molecular Basis of Disease*, **1994**, 1225, 223-30 | 6.9 | 28 |
| 145 | Catalytic activities of human alpha class glutathione transferases toward carcinogenic dibenzo[a,l]pyrene diol epoxides. *Chemical Research in Toxicology*, **2002**, 15, 825-31 | 4 | 27 |
| 144 | Disorder-to-order transition of the active site of human class Pi glutathione transferase, GST P1-1. *Biochemistry*, **2001**, 40, 11660-9 | 3.2 | 27 |
| 143 | Analysis of the Role of the Active Site Tyrosine in Human Glutathione Transferase A1-1 by Unnatural Amino Acid Mutagenesis. *Journal of the American Chemical Society*, **1998**, 120, 451-452 | 16.4 | 27 |
| 142 | The high activity of rat glutathione transferase 8-8 with alkene substrates is dependent on a glycine residue in the active site. *Journal of Biological Chemistry*, **1995**, 270, 29705-9 | 5.4 | 27 |
| 141 | Glutathione conjugation of trans-3,4-dihydroxy 1,2-epoxy 1,2,3,4-tetrahydrobenzo[c]phenanthrene isomers by human glutathione transferases. *Carcinogenesis*, **1992**, 13, 1549-55 | 4.6 | 27 |
| 140 | Inhibition of glutathione reductase by interaction of 2, 4, 6-trinitrobenzenesulfonate with the active-site dithiol. *FEBS Letters*, **1979**, 98, 263-6 | 3.8 | 27 |
| 139 | The reduction of the L-cysteine-glutathione mixed disulfide in rat liver. involvement of an enzyme catalyzing thiol-disulfide interchange. *FEBS Letters*, **1970**, 7, 26-28 | 3.8 | 27 |
| 138 | Mapping of amino acid substitutions conferring herbicide resistance in wheat glutathione transferase. *ACS Synthetic Biology*, **2015**, 4, 221-7 | 5.7 | 26 |
| 137 | Alternative mutations of a positively selected residue elicit gain or loss of functionalities in enzyme evolution. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 4876-81 | 11.5 | 26 |

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| 136 | Directed enzyme evolution guided by multidimensional analysis of substrate-activity space. *Protein Engineering, Design and Selection*, **2004**, 17, 49-55 | 1.9 | 25 |
| 135 | Incorporation of a single His residue by rational design enables thiol-ester hydrolysis by human glutathione transferase A1-1. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 13163-7 | 11.5 | 25 |
| 134 | Crystallization of GST2, a human class alpha glutathione transferase. *Journal of Molecular Biology*, **1989**, 208, 369-70 | 6.5 | 25 |
| 133 | Enzymatic catalysis of the reversible sulfitolysis of glutathione disulfide and the biological reduction of thiosulfate esters. *Archives of Biochemistry and Biophysics*, **1974**, 163, 283-9 | 4.1 | 25 |
| 132 | Nonlinear regression methods in design of experiments and mathematical modelling. Applications to the analysis of the steady-state kinetics of glutathione reductase. *BioSystems*, **1975**, 7, 101-19 | 1.9 | 25 |
| 131 | Kinetic properties of missense mutations in patients with glutathione synthetase deficiency. *Biochemical Journal*, **2000**, 349, 275-279 | 3.8 | 24 |
| 130 | Cysteine residues are not essential for the catalytic activity of human class Mu glutathione transferase M1a-1a. *FEBS Letters*, **1991**, 293, 156-9 | 3.8 | 24 |
| 129 | Relaxed thiol substrate specificity of glutathione transferase effected by a non-substrate glutathione derivative. *FEBS Letters*, **1988**, 231, 155-8 | 3.8 | 24 |
| 128 | Mechanism of glutathione transferase P1-1-catalyzed activation of the prodrug canfosfamide (TLK286, TELCYTA). *Biochemistry*, **2013**, 52, 8069-78 | 3.2 | 23 |
| 127 | Inhibition of yeast S-lactylglutathione lyase (glyoxalase I) by sulfhydryl reagents. *Archives of Biochemistry and Biophysics*, **1970**, 137, 128-32 | 4.1 | 23 |
| 126 | Structural determinants in domain II of human glutathione transferase M2-2 govern the characteristic activities with aminochrome, 2-cyano-1,3-dimethyl-1-nitrosoguanidine, and 1,2-dichloro-4-nitrobenzene. *Protein Science*, **1999**, 8, 2742-50 | 6.3 | 22 |
| 125 | Functionally diverging molecular quasi-species evolve by crossing two enzymes. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 10866-70 | 11.5 | 22 |
| 124 | Engineering of a metal coordinating site into human glutathione transferase M1-1 based on immobilized metal ion affinity chromatography of homologous rat enzymes. *Protein Engineering, Design and Selection*, **1994**, 7, 1115-9 | 1.9 | 22 |
| 123 | On the nature of leukotriene C4 synthase in human platelets. *Archives of Biochemistry and Biophysics*, **1992**, 294, 70-4 | 4.1 | 22 |
| 122 | Differences among allelic variants of human glutathione transferase A2-2 in the activation of azathioprine. *Chemico-Biological Interactions*, **2010**, 186, 110-7 | 5 | 21 |
| 121 | Absence of a ping-pong pathway in the kinetic mechanism of glutathione S-transferase A from rat liver. Evidence based on quantitative comparison of the asymptotic properties of experimental data and alternative rat equations. *FEBS Letters*, **1975**, 56, 218-21 | 3.8 | 21 |
| 120 | On the biosynthesis of 15-HETE and eoxin C4 by human airway epithelial cells. *Prostaglandins and Other Lipid Mediators*, **2015**, 121, 83-90 | 3.7 | 20 |
| 119 | Structural determinants of glutathione transferases with azathioprine activity identified by DNA shuffling of alpha class members. *Journal of Molecular Biology*, **2008**, 375, 1365-79 | 6.5 | 20 |

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| 118 | Screening for recombinant glutathione transferases active with monochlorobimane. *Analytical Biochemistry*, **2002**, 309, 102-8 | 3.1 | 20 |
| 117 | Contribution of glycine 146 to a conserved folding module affecting stability and refolding of human glutathione transferase p1-1. *Journal of Biological Chemistry*, **2003**, 278, 1291-302 | 5.4 | 20 |
| 116 | Thioltransferase. *Methods in Enzymology*, **1981**, 77, 281-5 | 1.7 | 20 |
| 115 | Targeting human glutathione transferase A3-3 attenuates progesterone production in human steroidogenic cells. *Biochemical Journal*, **2008**, 414, 103-9 | 3.8 | 19 |
| 114 | Active site serine promotes stabilization of the reactive glutathione thiolate in rat glutathione transferase T2-2. Evidence against proposed sulfatase activity of the corresponding human enzyme. *Journal of Biological Chemistry*, **2000**, 275, 8618-24 | 5.4 | 19 |
| 113 | Optimized heterologous expression of the polymorphic human glutathione transferase M1-1 based on silent mutations in the corresponding cDNA. *Protein Expression and Purification*, **1996**, 7, 367-72 | 2 | 19 |
| 112 | Expression of a Drosophila glutathione transferase in Arabidopsis confers the ability to detoxify the environmental pollutant, and explosive, 2,4,6-trinitrotoluene. *New Phytologist*, **2017**, 214, 294-303 | 9.8 | 17 |
| 111 | Porcine glutathione transferase Alpha 2-2 is a human GST A3-3 analogue that catalyses steroid double-bond isomerization. *Biochemical Journal*, **2010**, 431, 159-67 | 3.8 | 17 |
| 110 | Human glutathione transferases catalyzing the bioactivation of anticancer thiopurine prodrugs. *Biochemical Pharmacology*, **2007**, 73, 1829-41 | 6 | 17 |
| 109 | A highly acidic tyrosine 9 and a normally titrating tyrosine 212 contribute to the catalytic mechanism of human glutathione transferase A4-4. *Biochemical and Biophysical Research Communications*, **2001**, 280, 878-82 | 3.4 | 17 |
| 108 | Proposed reductive metabolism of artemisinin by glutathione transferases in vitro. *Free Radical Research*, **2001**, 35, 427-34 | 4 | 17 |
| 107 | Evaluation of the two-substrate pathway of glyoxalase I from yeast by use of carbonic anhydrase and rapid-kinetic studies. *FEBS Letters*, **1981**, 131, 301-304 | 3.8 | 17 |
| 106 | Subunit structure of glyoxalase I from yeast. *FEBS Letters*, **1978**, 85, 275-8 | 3.8 | 17 |
| 105 | Engineering GST M2-2 for high activity with indene 1,2-oxide and indication of an H-site residue sustaining catalytic promiscuity. *Journal of Molecular Biology*, **2011**, 412, 111-20 | 6.5 | 16 |
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