

References

1. du, V.V., C. Ressler, and J.R. Rachele, The biological synthesis of "labile methyl group". *Science*, 1950. 112(2906):267-71.
2. Mudd, S.H., et al., Homocystinuria: an Enzymatic Defect. *Science*, 1964. 143(3613): 1443-5.
3. Carson, N.A. and D.W. Neill, Metabolic abnormalities detected in a survey of mentally backward individuals in Northern Ireland. *Arch Dis Child*, 1962. 37: 505-13.
4. McCully, K.S., Vascular pathology of homocysteinemia: implications for the pathogenesis of arteriosclerosis. *Am J Pathol*, 1969. 56(1):111-28.
5. Kanwar, Y.S., J.R. Manaligod, and P.W. Wong, Morphologic studies in a patient with homocystinuria due to 5, 10-methylenetetrahydrofolate reductase deficiency. *Pediatr Res*, 1976. 10(6):598-609.
6. Lowe, C.U., C.P. Barnum, and C.D. May, Folic acid and the synthesis of pentose nucleic acids: a study of the liver cells of megaloblastic monkeys using chemical methods and incorporation of radioactive phosphorus. *AMA Am J Dis Child*, 1952. 83(3):398-401.
7. Carson, N.A., et al., Homocystinuria: a New Inborn Error of Metabolism Associated with Mental Deficiency. *Arch Dis Child*, 1963. 38:425-36.
8. Spaeth, E.B., Contacts in ocular pathology between the Ophthalmologist and Pediatrician. *Med Times*, 1965. 93(12):1323-34.
9. Spaeth, G.L. and P. Frost, Fabry's disease. Its ocular manifestations. *Arch Ophthalmol*, 1965. 74(6):760-9.
10. Gaull, G., Clinical and biochemical aspects of homocystinuria. *Monatsschr Kinderheilkd*, 1969. 117(1):27-9.

11. Spaeth, G.L. and G.W. Barber, Homocystinuria. In a mentally retarded child and her normal cousin. *Trans Am Acad Ophthalmol Otolaryngol*, 1965. 69(5): 912-30.
12. Kim, Y.J. and L.E. Rosenberg, On the mechanism of pyridoxine responsive homocystinuria. II. Properties of normal and mutant cystathionine beta-synthase from cultured fibroblasts. *Proc Natl Acad Sci U S A*, 1974. 71(12):4821-5.
13. Cruysberg, J.R. and A. Pinckers, Ectopia lentis et pupillae syndrome in three generations. *Br J Ophthalmol*, 1995. 79(2):35-8.
14. Mudd, S.H., et al., The natural history of homocystinuria due to cystathionine beta-synthase deficiency. *Am J Hum Genet*, 1985. 37(1):1-31.
15. Ueland, P.M., et al., Total homocysteine in plasma or serum: methods and clinical applications. *Clin Chem*, 1993. 39(9):1764-79.
16. Chu, R.C. and C.A. Hall, The total serum homocysteine as an indicator of vitamin B12 and folate status. *Am J Clin Pathol*, 1988. 90(4):446-9.
17. Kang, S.S., P.W. Wong, and K. Curley, The effect of D-penicillamine on protein-bound homocyst(e)ine in homocystinurics. *Pediatr Res*, 1982. 16(5):370-2.
18. Stabler, S.P., et al., Quantitation of total homocysteine, total cysteine, and methionine in normal serum and urine using capillary gas chromatography-mass spectrometry. *Anal Biochem*, 1987. 162(1):185-96.
19. Sawula, W., et al., Improved HPLC method for total plasma homocysteine detection and quantification. *Acta Biochim Pol*, 2008. 55(1):119-25.
20. Badiou, S., et al., A New DiaSys colorimetric assay for plasma homocysteine: application in diabetic patients. *Ann Clin Lab Sci*, 2009. 39(3):233-40.
21. Zhang, M. and C.M. Pfeiffer, Comparing the ESA HPLC total homocysteine assay with electrochemical detection to the CDC in-house HPLC assay with fluorescence detection. *Clin Chim Acta*, 2004. 340(1-2): 195-200.

22. Selhub, J., Homocysteine metabolism. *Annu Rev Nutr*, 1999. 19:217-46.
23. Selhub, J. and A. D'Angelo, Relationship between homocysteine and thrombotic disease. *Am J Med Sci*, 1998. 316(2):129-41.
24. Jakubowski, H., et al., Homocysteine thiolactone and protein homocysteinylation in human endothelial cells: implications for atherosclerosis. *Circ Res*, 2000. 87(1):45-51.
25. Jakubowski, H., The pathophysiological hypothesis of homocysteine thiolactone-mediated vascular disease. *J Physiol Pharmacol*, 2008. 59(9):155-67.
26. Jakubowski, H., Homocysteine thiolactone: metabolic origin and protein homocysteinylation in humans. *J Nutr*, 2000. 130:377S-381S.
27. Jakubowski, H., Protein N-homocysteinylation: implications for atherosclerosis. *Biomed Pharmacother*, 2001. 55(8): 443-7.
28. Jakubowski, H., The molecular basis of homocysteine thiolactone-mediated vascular disease. *Clin Chem Lab Med*, 2007. 45(12):1704-16.
29. Kery, V., G. Bukovska, and J.P. Kraus, Transsulfuration depends on heme in addition to pyridoxal 5'-phosphate. Cystathionine beta-synthase is a heme protein. *J Biol Chem*, 1994. 269(41):25283-8.
30. Ozaki, S., A. Inada, and K. Sada, Modulation of cystathionine beta-synthase activity by the Arg-51 and Arg-224 mutations. *Biosci Biotechnol Biochem*, 2008. 72(9): 2318-23.
31. Ponka, P., Cellular iron metabolism. *Kidney Int Suppl*, 1999. 69:S2-11.
32. Loscalzo, J., The oxidant stress of hyperhomocyst(e)inemia. *J Clin Invest*, 1996. 98(1):5-7.
33. Herman, E.H., J. Zhang, and V.J. Ferrans, Comparison of the protective effects of desferrioxamine and ICRF-187 against doxorubicin-induced toxicity in spontaneously hypertensive rats. *Cancer Chemother Pharmacol*, 1994. 35(2):93-100.

34. Gutteridge, J.M. and J. Mitchell, Redox imbalance in the critically ill. *Br Med Bull*, 1999. 55(1): 49-75.
35. Duan, W., et al., Dietary folate deficiency and elevated homocysteine levels endanger dopaminergic neurons in models of Parkinson's disease. *J Neurochem*, 2002. 80(1): 101-10.
36. Suh, J.R., et al., Purification and properties of a folate-catabolizing enzyme. *J Biol Chem*, 2000. 275(45):35646-55.
37. Harrison, P.M. and P. Arosio, The ferritins: molecular properties, iron storage function and cellular regulation. *Biochim Biophys Acta*, 1996. 1275(3):161-203.
38. Sabbagh, A.S., et al., High prevalence of MTHFR gene A1298C polymorphism in Lebanon. *Genet Test*, 2008. 12(1):75-80.
39. Wu, C.G., et al., Rat ferritin-H: cDNA cloning, differential expression and localization during hepatocarcinogenesis. *Carcinogenesis*, 1997. 18(1):47-52.
40. Sullivan, J.L., Iron and the sex difference in heart disease risk. *Lancet*, 1981. 1(8233): 1293-4.
41. Lapice, E., M. Masulli, and O. Vaccaro, Iron deficiency and cardiovascular disease: an updated review of the evidence. *Curr Atheroscler Rep*. 15(10): 358.
42. Robinson, K., et al., Hyperhomocysteinemia and low pyridoxal phosphate. Common and independent reversible risk factors for coronary artery disease. *Circulation*, 1995. 92(10):2825-30.
43. Mattioli, A.V., et al., Acute myocardial infarction in young patients: nutritional status and biochemical factors. *Int J Cardiol*, 2005. 101(2):185-90.
44. Pena-Duque, M.A., et al., Homocysteine is related to aortic mineralization in patients with ischemic heart disease. *J Atheroscler Thromb*. 19(3):292-7.

45. Baggott, J.E. and T. Tamura, Serum iron parameters and plasma total homocysteine concentrations. *J Gerontol A Biol Sci Med Sci*. 66(6): 656.
46. Meister, A., Glutathione metabolism and its selective modification. *J Biol Chem*, 1988. 263(33):17205-8.
47. Meister, A. and M.E. Anderson, Glutathione. *Annu Rev Biochem*, 1983. 52: p. 711-60.
48. Yan, N. and A. Meister, *Amino* acid sequence of rat kidney gamma-glutamylcysteine synthetase. *J Biol Chem*, 1990. 265(3):1588-93.
49. Lu, S.C., Glutathione synthesis. *Biochim Biophys Acta*. 1830(5):3143-53.
50. Liu, X., et al., Homocysteine induces connective tissue growth factor expression in vascular smooth muscle cells. *J Thromb Haemost*, 2008. 6(1):184-92.
51. Park, S.K., et al., Hydrogen peroxide is a novel inducer of connective tissue growth factor. *Biochem Biophys Res Commun*, 2001. 284(4):966-71.
52. Chujo, S., et al., Connective tissue growth factor causes persistent proalpha2(I) collagen gene expression induced by transforming growth factor-beta in a mouse fibrosis model. *J Cell Physiol*, 2005. 203(2):447-56.
53. Szeto, C.C., et al., Differential effects of transforming growth factor-beta on the synthesis of connective tissue growth factor and vascular endothelial growth factor by peritoneal mesothelial cell. *Nephron Exp Nephrol*, 2005. 99(4): 95-104.
54. Chang, P.Y., et al., Homocysteine inhibits arterial endothelial cell growth through transcriptional downregulation of fibroblast growth factor-2 involving G protein and DNA methylation. *Circ Res*, 2008. 102(8): 933-41.
55. Connolly, D.T., et al., Tumor vascular permeability factor stimulates endothelial cell growth and angiogenesis. *J Clin Invest*, 1989. 84(5):1470-8.

56. Inoue, M., et al., Vascular endothelial growth factor (VEGF) expression in human coronary atherosclerotic lesions: possible pathophysiological significance of VEGF in progression of atherosclerosis. *Circulation*, 1998. 98(20):2108-16.
57. Zhang, C., et al., Homocysteine induces programmed cell death in human vascular endothelial cells through activation of the unfolded protein response. *J Biol Chem*, 2001. 276(38):35867-74.
58. Roybal, C.N., et al., Homocysteine increases the expression of vascular endothelial growth factor by a mechanism involving endoplasmic reticulum stress and transcription factor ATF4. *J Biol Chem*, 2004. 279(15):14844-52.
59. Shastry, S., et al., Proteomic analysis of homocysteine inhibition of microvascular endothelial cell angiogenesis. *Cell Mol Biol*, 2004. 50(8):931-7.
60. Wilcken, D.E., S.G. Reddy, and V.J. Gupta, Homocysteinemia, ischemic heart disease, and the carrier state for homocystinuria. *Metabolism*, 1983. 32(4):363-70.
61. Wilcken, D.E. and B. Wilcken, The pathogenesis of coronary artery disease. A possible role for methionine metabolism. *J Clin Invest*, 1976. 57(4):1079-82.
62. McCully, K.S., A.J. Olszewski, and M.P. Vezeridis, Homocysteine and lipid metabolism in atherogenesis: effect of the homocysteine thiolactonyl derivatives, thioretinaco and thioretinamide. *Atherosclerosis*, 1990. 83(2-3):197-206.
63. McCully, K.S., Atherosclerosis, serum cholesterol and the homocysteine theory: a study of 194 consecutive autopsies. *Am J Med Sci*, 1990. 299(4):217-21.
64. Chambers, J.C., et al., Investigation of relationship between reduced, oxidized, and protein-bound homocysteine and vascular endothelial function in healthy human subjects. *Circ Res*, 2001. 89(2):187-92.
65. Dierkes, J., C. Luley, and S. Westphal, Effect of lipid-lowering and anti-hypertensive drugs on plasma homocysteine levels. *Vasc Health Risk Manag*, 2007. 3(1):99-108.

66. Basu, T.K., N. Makhani, and G. Sedgwick, Niacin (nicotinic acid) in non-physiological doses causes hyperhomocysteinaemia in Sprague-Dawley rats. *Br J Nutr*, 2002. 87(2):115-9.
67. Lin, C.P., et al., Direct effect of statins on homocysteine-induced endothelial adhesiveness: potential impact to human atherosclerosis. *Eur J Clin Invest*, 2008. 38(2):106-16.
68. Humphrey, L.L., et al., Homocysteine level and coronary heart disease incidence: a systematic review and meta-analysis. *Mayo Clin Proc*, 2008. 83(11):1203-12.
69. Kannel, W.B., et al., An investigation of coronary heart disease in families. The Framingham offspring study. *Am J Epidemiol*, 1979. 110(3):281-90.
70. Sleight, P., The HOPE Study (Heart Outcomes Prevention Evaluation). *J Renin Angiotensin Aldosterone Syst*, 2000. 1(1):18-20.
71. The VITATOPS (Vitamins to Prevent Stroke) Trial: rationale and design of an international, large, simple, randomised trial of homocysteine-lowering multivitamin therapy in patients with recent transient ischaemic attack or stroke. *Cerebrovasc Dis*, 2002. 13(2):120-6.
72. Toole, J.F., et al., Lowering homocysteine in patients with ischemic stroke to prevent recurrent stroke, myocardial infarction, and death: the Vitamin Intervention for Stroke Prevention (VISP) randomized controlled trial. *Jama*, 2004. 291(5):565-75.
73. Polkinghorne, K.R., et al., Randomized, placebo-controlled trial of intramuscular vitamin B12 for the treatment of hyperhomocysteinaemia in dialysis patients. *Intern Med J*, 2003. 33(11):489-94.
74. Jamison, R.L., et al., Design and statistical issues in the homocysteinemia in kidney and end stage renal disease (HOST) study. *Clin Trials*, 2004. 1(5):451-60.

75. Bazzano, L.A., et al., Effect of folic acid supplementation on risk of cardiovascular diseases: a meta-analysis of randomized controlled trials. *Jama*, 2006.296(22):2720-6.
76. Lonn, E., et al., Homocysteine lowering with folic acid and B vitamins in vascular disease. *N Engl J Med*, 2006. 354(15):1567-77.
77. Bostom, A.G., et al., Rationale and design of the Folic Acid for Vascular Outcome Reduction In Transplantation (FAVORIT) trial. *Am Heart J*, 2006. 152(3):448 e1-7.
78. Ebbing, M., et al., Mortality and cardiovascular events in patients treated with homocysteine-lowering B vitamins after coronary angiography: a randomized controlled trial. *Jama*, 2008. 300(7):795-804.
79. Bleie, O., et al., Homocysteine-lowering therapy does not affect inflammatory markers of atherosclerosis in patients with stable coronary artery disease. *J Intern Med*, 2007. 262(2):244-53.
80. Tsamaloukas, A.G., Vitamins and Thrombosis (VITRO) study--homocysteine lowering with B vitamins. *Blood*, 2007. 109(12):5520-1.
81. Homocysteine-lowering trials for prevention of cardiovascular events: a review of the design and power of the large randomized trials. *Am Heart J*, 2006. 151(2):282-7.
82. Stuhlinger, M.C., et al., Homocysteine impairs the nitric oxide synthase pathway: role of asymmetric dimethylarginine. *Circulation*, 2001. 104(21):2569-75.
83. Jacobsen, D.W., Homocysteine and vitamins in cardiovascular disease. *Clin Chem*, 1998. 44:1833-43.
84. Mansoor, M.A., et al., Dynamic relation between reduced, oxidized, and protein-bound homocysteine and other thiol components in plasma during methionine loading in healthy men. *Clin Chem*, 1992. 38(7):1316-21.
85. Dayal, S. and S.R. Lentz, Role of redox reactions in the vascular phenotype of hyperhomocysteinemic animals. *Antioxid Redox Signal*. 2007. 9(11):1899-909.

86. Dayal, S., et al., Cerebral vascular dysfunction in methionine synthase-deficient mice. *Circulation*, 2005. 112(5):737-44.
87. Dayal, S., et al., Cerebral vascular dysfunction mediated by superoxide in hyperhomocysteinemic mice. *Stroke*, 2004. 35(8):1957-62.
88. Dayal, S., et al., Enhanced susceptibility to arterial thrombosis in a murine model of hyperhomocysteinemia. *Blood*, 2006. 108(7):2237-43.
89. Friedman, A.N., et al., The kidney and homocysteine metabolism. *J Am Soc Nephrol*, 2001. 12(10):2181-9.
90. Eikelboom, J.W., et al., Homocyst(e)ine and cardiovascular disease: a critical review of the epidemiologic evidence. *Ann Intern Med*, 1999. 131(5):363-75.
91. Casas, J.P., et al., Homocysteine and stroke: evidence on a causal link from mendelian randomisation. *Lancet*, 2005. 365(9455):224-32.
92. Lattanzio, R., et al., Moderate hyperhomocysteinemia and early-onset central retinal vein occlusion. *Retina*, 2006. 26(1):65-70.
93. de Luis, D.A., et al., Total homocysteine levels relation with chronic complications of diabetes, body composition, and other cardiovascular risk factors in a population of patients with diabetes mellitus type 2. *J Diabetes Complications*, 2005. 19(1):42-6.
94. Sulochana, K.N., et al., Homocystinuria with congenital/developmental cataract. *Indian J Pediatr*, 2000. 67(10):725-8.
95. Coral, K., et al., Plasma homocysteine and total thiol content in patients with exudative age-related macular degeneration. *Eye*, 2006. 20(2):203-7.
96. Narayanasamy, A., et al., Hyperhomocysteinemia and low methionine stress are risk factors for central retinal venous occlusion in an Indian population. *Invest Ophthalmol Vis Sci*, 2007. 48(4):1441-6.

97. Coral, K., et al., Homocysteine levels in the vitreous of proliferative diabetic retinopathy and rhegmatogenous retinal detachment: its modulating role on lysyl oxidase. *Invest Ophthalmol Vis Sci*, 2009. 50(8):3607-12.
98. Nguyen, T.T., et al., Inflammatory, hemostatic, and other novel biomarkers for diabetic retinopathy: the multi-ethnic study of atherosclerosis. *Diabetes Care*, 2009. 32(9):1704-9.
99. Ganapathy, P.S., et al., Diabetes Accelerates Retinal Neuronal Cell Death In A Mouse Model of Endogenous Hyperhomocysteinemia. *Ophthalmol Eye Dis*, 2009.1:3-11.
100. Shindler, K.S., Retinal ganglion cell loss in diabetes associated with elevated homocysteine. *Ophthalmol Eye Dis*, 2009. 1:41-3.
101. Satyanarayana, A., et al., Status of B-vitamins and homocysteine in diabetic retinopathy: association with vitamin-B12 deficiency and hyperhomocysteinemia. *PLoS One*. 6(11): 26747.
102. Weisfeld-Adams, J.D., et al., Ocular disease in the cobalamin C defect: A review of the literature and a suggested framework for clinical surveillance. *Mol Genet Metab*. 114(4):537-546.
103. Bleich, S., et al., Homocysteine and risk of open-angle glaucoma. *J Neural Transm*, 2002. 109(12):1499-504.
104. Puustjarvi, T., et al., Plasma and aqueous humour levels of homocysteine in exfoliation syndrome. *Graefes Arch Clin Exp Ophthalmol*, 2004. 242(9):749-54.
105. Tyagi, S.C., Homocysteine redox receptor and regulation of extracellular matrix components in vascular cells. *Am J Physiol*, 1998. 274:396-405.
106. Er, H., et al., Serum homocysteine level is increased and correlated with endothelin-1 and nitric oxide in Behcet's disease. *Br J Ophthalmol*, 2002. 86(6):653-7.

107. Loscalzo, J., Homocysteine trials--clear outcomes for complex reasons. *N Engl J Med*, 2006. 354(15):1629-32.
108. Djuric, D., et al., Homocysteine, folic acid and coronary artery disease: possible impact on prognosis and therapy. *Indian J Chest Dis Allied Sci*, 2008. 50(1):39-48.
109. Andersson, A., et al., Plasma homocysteine before and after methionine loading with regard to age, gender, and menopausal status. *Eur J Clin Invest*, 1992. 22(2):79-87.
110. Wouters, M.G., et al., Plasma homocysteine and menopausal status. *Eur J Clin Invest*, 1995. 25(11):801-5.
111. Brouwer, I.A., et al., Low-dose folic acid supplementation decreases plasma homocysteine concentrations: a randomized trial. *Am J Clin Nutr*, 1999;69(1):99-104.
112. Brattstrom, L., Vitamins as homocysteine-lowering agents. *J Nutr*, 1996. 126:1276-80.
113. Clarke, R. and J. Armitage, Vitamin supplements and cardiovascular risk: review of the randomized trials of homocysteine-lowering vitamin supplements. *Semin Thromb Hemost*, 2000. 26(3):341-8.
114. Clarke, R. and R. Collins, Can dietary supplements with folic acid or vitamin B6 reduce cardiovascular risk? Design of clinical trials to test the homocysteine hypothesis of vascular disease. *J Cardiovasc Risk*, 1998. 5(4):249-55.
115. Biswas, J., et al., Eales disease--an update. *Surv Ophthalmol*, 2002. 47(3):197-214.
116. Bharathselvi, M., et al., Increased homocysteine, homocysteine-thiolactone, protein homocysteinylation and oxidative stress in the circulation of patients with Eales' disease. *Ann Clin Biochem*. 50:330-8.
117. Bhooma, V., et al., Eales' disease: accumulation of reactive oxygen intermediates and lipid peroxides and decrease of antioxidants causing inflammation, neovascularization and retinal damage. *Curr Eye Res*, 1997. 16(2):91-5.

118. Sulochana, K.N., M. Rajesh, and S. Ramakrishnan, Purification and characterization of a novel 88 kDa protein from serum and vitreous of patients with Eales' disease. *Exp Eye Res*, 2001. 73(4):547-55.
119. Evans, J.R., Risk factors for age-related macular degeneration. *Prog Retin Eye Res*, 2001. 20(2):227-53.
120. Fine, S.L., et al., Age-related macular degeneration. *N Engl J Med*, 2000. 342(7): 483-92.
121. Smith, W., et al., Risk factors for age-related macular degeneration: Pooled findings from three continents. *Ophthalmology*, 2001. 108(4): 697-704.
122. Hammond, C.J., et al., Genetic influence on early age-related maculopathy: a twin study. *Ophthalmology*, 2002. 109(4):730-6.
123. Risk factors for neovascular age-related macular degeneration. The Eye Disease Case-Control Study Group. *Arch Ophthalmol*, 1992. 110(12):1701-8.
124. Bharathselvi, M., et al., Increased homocysteine, homocysteine-thiolactone, protein homocysteinylation and oxidative stress in the circulation of patients with Eales' disease. *Ann Clin Biochem*, 2013. 50:330-8.
125. Tcherkas, Y.V. and A.D. Denisenko, Simultaneous determination of several amino acids, including homocysteine, cysteine and glutamic acid, in human plasma by isocratic reversed-phase high-performance liquid chromatography with fluorimetric detection. *J Chromatogr A*, 2001. 913(1-2):309-13.
126. Jakubowski, H., The determination of homocysteine-thiolactone in biological samples. *Anal Biochem*, 2002. 308(1):112-9.
127. Chwatko, G. and H. Jakubowski, The determination of homocysteine-thiolactone in human plasma. *Anal Biochem*, 2005. 337(2):271-7.

128. Blakney, G.B. and A.J. Dinwoodie, A spectrophotometric scanning technique for the rapid determination of plasma hemoglobin. *Clin Biochem*, 1975. 8(2):96-102.
129. Smith, F.E., et al., Serum iron determination using ferene triazine. *Clin Biochem*, 1984. 17(5):306-10.
130. Yamanishi, H., et al., Fully automated measurement of total iron-binding capacity in serum. *Clin Chem*, 1997. 43(12):2413-7.
131. Hunter, G.A. and G.C. Ferreira, A continuous spectrophotometric assay for 5-aminolevulinate synthase that utilizes substrate cycling. *Anal Biochem*, 1995. 226(2): 221-4.
132. Berry, E.A. and B.L. Trumpower, Simultaneous determination of hemes a, b, and c from pyridine hemochrome spectra. *Anal Biochem*, 1987. 161(1):1-15.
133. Bernard, A. and R. Lauwerys, Turbidimetric latex immunoassay for serum ferritin. *J Immunol Methods*, 1984. 71(2):141-7.
134. Kreutzer, H.J., An immunological turbidimetric method for serum transferrin determination. *J Clin Chem Clin Biochem*, 1976. 14(8):401-6.
135. Samuelson, G., et al., Serum ferritin and transferrin receptor concentrations during the transition from adolescence to adulthood in a healthy Swedish population. *Acta Paediatr*, 2003. 92(1):5-11.
136. Bussolati, B., et al., Bifunctional role for VEGF-induced heme oxygenase-1 in vivo: induction of angiogenesis and inhibition of leukocytic infiltration. *Blood*, 2004. 103(3):761-6.
137. Weindling, H. and J.B. Henry, Laboratory test results altered by "The Pill". *Jama*, 1974. 229(13):1762-8.

138. Bradford, M.M., A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. *Anal Biochem*, 1976. 72:248-54.
139. Hu, M.L., Measurement of protein thiol groups and glutathione in plasma. *Methods Enzymol*, 1994. 233:380-5.
140. Sakhi, A.K., et al., Simultaneous quantification of reduced and oxidized glutathione in plasma using a two-dimensional chromatographic system with parallel porous graphitized carbon columns coupled with fluorescence and coulometric electrochemical detection. *J Chromatogr A*, 2006. 1104(1-2):179-89.
141. Wu, H., et al., Optimization and application of glutamate cysteine ligase measurement in wildlife species. *Ecotoxicol Environ Saf*, 2009. 72(2):572-8.
142. The universal protein resource (UniProt). *Nucleic Acids Res*, 2008. 36(Database issue):D190-5.
143. Eswar, N., et al., Comparative protein structure modeling using Modeller. *Curr Protoc Bioinformatics*, 2006. Chapter 5: p. Unit 5 6.
144. Madej, T., et al., MMDB and VAST+: tracking structural similarities between macromolecular complexes. *Nucleic Acids Res*, 2014. 42(Database issue):D297-303.
145. Bailey, T.A., et al., Oxidative stress affects the junctional integrity of retinal pigment epithelial cells. *Invest Ophthalmol Vis Sci*, 2004. 45(2):675-84.
146. Strunnikova, N., et al., Survival of retinal pigment epithelium after exposure to prolonged oxidative injury: a detailed gene expression and cellular analysis. *Invest Ophthalmol Vis Sci*, 2004. 45(10):3767-77.
147. Beatty, S., et al., The role of oxidative stress in the pathogenesis of age-related macular degeneration. *Surv Ophthalmol*, 2000. 45(2):115-34.

148. Baudin, B., et al., A protocol for isolation and culture of human umbilical vein endothelial cells. *Nat Protoc*, 2007. 2(3):481-5.
149. Ramakrishnan, S., et al., Biochemistry of homocysteine in health and diseases. *Indian J Biochem Biophys*, 2006. 43(5):275-83.
150. Jakubowski, H., Pathophysiological consequences of homocysteine excess. *J Nutr*, 2006. 136:1741S-1749S.
151. Hughes, W.M., Jr., et al., Role of copper and homocysteine in pressure overload heart failure. *Cardiovasc Toxicol*, 2008. 8(3):137-44.
152. Jakubowski, H., Calcium-dependent human serum homocysteine thiolactone hydrolase. A protective mechanism against protein N-homocysteinylation. *J Biol Chem*, 2000. 275(6):3957-62.
153. Chang, H.H., et al., Intravitreal homocysteine-thiolactone injection leads to the degeneration of multiple retinal cells, including photoreceptors. *Mol Vis*. 17:1946-56.
154. Wilcken, D.E., et al., Relationship between homocysteine and superoxide dismutase in homocystinuria: possible relevance to cardiovascular risk. *Arterioscler Thromb Vasc Biol*, 2000. 20(5):1199-202.
155. Lu, S.C., Regulation of glutathione synthesis. *Mol Aspects Med*, 2009. 30(1-2):42-59.
156. Chau, K.Y., et al., Plasma levels of matrix metalloproteinase-2 and -9 (MMP-2 and MMP-9) in age-related macular degeneration. *Eye*, 2008. 22(6):855-9.
157. Mani, M., et al., Activation of Nrf2-Antioxidant Response Element Mediated Glutamate Cysteine Ligase Expression in Hepatoma Cell line by Homocysteine. *Hepat Mon*. 13(5):8394.
158. Wilcken DE, Wang XL, Adachi T, Hara H, Duarte N, Green K, et al. Relationship between homocysteine and superoxide dismutase in homocystinuria: possible relevance

- to cardiovascular risk. *Arteriosclerosis, thrombosis, and vascular biology*. 2000 ;20(5):1199-202.
159. Petrlova, J., et al., Simultaneous determination of eight biologically active thiol compounds using gradient elution-liquid chromatography with Coul-Array detection. *J Sep Sci*, 2006. 29(8):1166-73.
160. Vacek, J., et al., A hydrophilic interaction chromatography coupled to a mass spectrometry for the determination of glutathione in plant somatic embryos. *Analyst*, 2006. 131(10):1167-74.
161. Mikelova, R., et al., Electrochemical determination of Ag-ions in environment waters and their action on plant embryos. *Bioelectrochemistry*, 2007. 70(2):508-18.
162. Guan, X., et al., A simultaneous liquid chromatography/mass spectrometric assay of glutathione, cysteine, homocysteine and their disulfides in biological samples. *J Pharm Biomed Anal*, 2003. 31(2):251-61.
163. Arora, B., et al., Development and validation of a LC-MS/MS method for homocysteine thiolactone in plasma and evaluation of its stability in plasma samples. *J Chromatogr B Analyt Technol Biomed Life Sci*, 2014. 944:49-54.
164. Zeng, R., et al., Serum levels of matrix metalloproteinase 2 and matrix metalloproteinase 9 elevated in polypoidal choroidal vasculopathy but not in age-related macular degeneration. *Mol Vis*. 19:729-36.
165. Schuller-Levis, G.B. and E. Park, Taurine: new implications for an old amino acid. *FEMS Microbiol Lett*, 2003. 226(2):195-202.
166. Liu, G., K. Nellaiappan, and H.M. Kagan, Irreversible inhibition of lysyl oxidase by homocysteine thiolactone and its selenium and oxygen analogues. *Implications for homocystinuria*. *J Biol Chem*, 1997. 272(51):32370-7.

167. Najib, S. and V. Sanchez-Margalet, Homocysteine thiolactone inhibits insulin signaling, and glutathione has a protective effect. *J Mol Endocrinol*, 2001. 27(1):85-91.
168. Roest, M., et al., Heterozygosity for a hereditary hemochromatosis gene is associated with cardiovascular death in women. *Circulation*, 1999. 100(12):1268-73.
169. Sullivan, J.L., Is homocysteine an iron-dependent cardiovascular risk factor? *Kidney Int*, 2006. 69(4):642-4.
170. Schiepers, O.J., et al., Serum iron parameters, HFE C282Y genotype, and cognitive performance in older adults: results from the FACIT study. *J Gerontol A Biol Sci Med Sci*. 65(12):1312-21.
171. Motterlini, R. and V.W. Macdonald, Cell-free hemoglobin potentiates acetylcholine-induced coronary vasoconstriction in rabbit hearts. *J Appl Physiol* (1985), 1993. 75(5):2224-33.
172. Keyse, S.M. and R.M. Tyrrell, Heme oxygenase is the major 32-kDa stress protein induced in human skin fibroblasts by UVA radiation, hydrogen peroxide, and sodium arsenite. *Proc Natl Acad Sci U S A*, 1989. 86(1):99-103.
173. Hara, E., et al., Induction of heme oxygenase-1 as a response in sensing the signals evoked by distinct nitric oxide donors. *Biochem Pharmacol*, 1999. 58(2):227-36.
174. Willis, D., et al., Heme oxygenase: a novel target for the modulation of the inflammatory response. *Nat Med*, 1996. 2(1):87-90.
175. Cao, J., et al., Upregulation of heme oxygenase-1 combined with increased adiponectin lowers blood pressure in diabetic spontaneously hypertensive rats through a reduction in endothelial cell dysfunction, apoptosis and oxidative stress. *Int J Mol Sci*, 2008. 9(12):2388-406.

176. L'Abbate, A., et al., Beneficial effect of heme oxygenase-1 expression on myocardial ischemia-reperfusion involves an increase in adiponectin in mildly diabetic rats. *Am J Physiol Heart Circ Physiol*, 2007. 293(6):3532-41.
177. Kronke, G., et al., Expression of heme oxygenase-1 in human vascular cells is regulated by peroxisome proliferator-activated receptors. *Arterioscler Thromb Vasc Biol*, 2007. 27(6):1276-82.
178. Peterson, S.J., W.H. Frishman, and N.G. Abraham, Targeting heme oxygenase: therapeutic implications for diseases of the cardiovascular system. *Cardiol Rev*, 2009. 17(3):99-111.
179. Abraham, N.G. and A. Kappas, Pharmacological and clinical aspects of heme oxygenase. *Pharmacol Rev*, 2008. 60(1):79-127.
180. Ciudin, A., C. Hernandez, and R. Simo, Iron overload in diabetic retinopathy: a cause or a consequence of impaired mechanisms? *Exp Diabetes Res*. 2010.
181. Dulak, J. and A. Jozkowicz, Regulation of vascular endothelial growth factor synthesis by nitric oxide: facts and controversies. *Antioxid Redox Signal*, 2003. 5(1): 123-32.
182. Prentice, A.M., et al., Hepcidin is the major predictor of erythrocyte iron incorporation in anemic African children. *Blood*, 2012. 119(8):1922-8.
183. Martinelli, N., et al., Increased serum hepcidin levels in subjects with the metabolic syndrome: a population study. *PLoS One*, 2012. 7(10): 48250.
184. Prentice, A.M. and S.E. Cox, Iron and malaria interactions: research needs from basic science to global policy. *Adv Nutr*, 2012. 3(4):583-91.
185. Moriarty, S.E., et al., Oxidation of glutathione and cysteine in human plasma associated with smoking. *Free Radic Biol Med*, 2003. 35(12):1582-8.

186. Castro, R., et al., Homocysteine metabolism, hyperhomocysteinaemia and vascular disease: an overview. *J Inherit Metab Dis*, 2006. 29(1):3-20.
187. Deponte, M., Glutathione catalysis and the reaction mechanisms of glutathione-dependent enzymes. *Biochim Biophys Acta*, 2013. 1830(5): 3217-66.
188. Krzywanski, D.M., et al., Variable regulation of glutamate cysteine ligase subunit proteins affects glutathione biosynthesis in response to oxidative stress. *Arch Biochem Biophys*, 2004. 423(1):116-25.
189. Sekhar, K.R., et al., NADPH oxidase activity is essential for Keap1/Nrf2-mediated induction of GCLC in response to 2-indol-3-yl-methylenequinuclidin-3-ols. *Cancer Res*, 2003. 63(17):5636-45.