References
Abdel-Fattah AF, Magdel-Din MH, Salem HM Constitution of Sargassan, a sulphated heteropolysaccharide from Sargassum linfolium Carb res 1974, 33 209-15


Ahmed SS Napoli KL Strobel HW Oxygen radical formation during cytochrome P450-catalyzed cyclosporine metabolism in rat and human liver microsomes at varying hydrogen ion concentrations Mol Cell Biochemn 1995 151 131-40

Al-Nasser I Crompton M The reversible Ca2+-induced permeabilization of rat liver mitochondria Biochem J 1986 239 19-29

Altschuh D Cyclosporin A as a model antigen immunochemical and structural studies J Mol Recognit 2002 15 277-85


Aminoff D Methods for the quantitative estimation of N-acetylneuraminic acid and their application to hydrolysates of stalomucoids Biochem J 1961 81 384-92


Amudha G Josephine A Varalakshmi P Role of lipidic acid in reducing the oxidative stress induced by cyclosporine A Clin Chim Acta 2006 372 134-9

Andrews PA Renal transplantation BMJ 2002 324 530-4

Apanav DC Nevlan Jr, Ragab MS Sgoutas DS Cyclosporine increases the oxidizability of low-density lipoproteins in renal transplant recipients Transplantation 1994 58 663-9

Aravindhan R Madhan B Rao JR Nair BL Ramasami T Bioaccumulation of chromium from tannery wastewater an approach for chrome recovery and reuse Environ Sci Technol 2004 38 300-6


Berteau O, Mulloy B. Sulfated fucans, fresh perspectives: structures, functions, and biological properties of sulfated fucans and an overview of enzymes active toward this class of polysaccharide. Glycobiology 2003; 13: 29R-40R.


Deepa PR, Varalakshmi P. Influence of a low-molecular-weight heparin derivative on the nitric oxide levels and apoptotic DNA damage in Adriamycin-induced cardiac and renal toxicity. Toxicology 2006; 217: 176-83.


Diederch D, Skopec J, Diederch A, Dai FX Cyclosporine produces endothelial dysfunction by increased production of superoxide Hypertension 1994, 23 957-61

Dietschy JM Experimental mechanism Regulation of plasma LDL cholesterol Am J Clin Nutr 1995, 62 679S–688S


Dische Z Color reactions of hexuronic acids In Whistler RL and Wolfson ML (eds), Methods of Carbohydrate Chemistry Academic Press, London, UK, 1962, 484-8

Dodgson KS, Price RG A note on the determination of the ester sulphate content of sulphated polysaccharides Biochem J 1962, 84 106-10


Droge W Free radicals in the physiological control of cell function Physiol Rev 2002, 82 47-95

Dubey NK, Yadav P, Dutta AK, Kumar V, Ray GN, Batra S Free oxygen radicals in acute renal failure Indian Pediatr 2000, 37 153-8


Durak I, Karabacak HI, Buyukkocak S, Cimen MY, Kacmaz M, Omeroglu E, Ozturk HS Impaired antioxidant defense system in the kidney tissues from rabbits treated with cyclosporine Protective effects of vitamins E and C Nephron 1998, 78 207-11


Duymelenck C, Dauwe SE, Nouwen EJ, De Broe ME, Verpooten GA Cholesterol feeding accentuates the cyclosporine-induced elevation of renal plasminogen activator inhibitor type 1 Kidney Int 1997, 51 1818-30


Green DE, Burkhard RK Studies on the electron transport system 33 Succinic-cytochrome c reductase Arch Biochem Biophys 1961, 92 312-20

Green DR, Reed JC Mitochondria and apoptosis Science 1998, 281 1309-12


Gross-Bellard M Oudet P Chambon P Isolation of high-molecular-weight DNA from mammalian cells Eur J Biochem 1973 36 32-8

Grub S Trommer WE Wolf A Role of antioxidants in the O-hydroxyethyl-D-(Ser)8-cyclosporine A (SDZ IMM125)-induced apoptosis in rat hepatocytes Biochem Pharmacol 2002 64 1725-36

Guder WG Ross BD Enzyme distribution along the nephron Kidney Int 1984 26 101-11

Guerrero A Arias IM Apoptosis In Sperelakis N editor Cell Physiology Source Book Section IX Cell Division and programmed cell death San Diego Academic press 1998

Guimaraes MA Mourao PA Urinary excretion of sulfated polysaccharides administered to Wistar rats suggests a renal permselectivity to these polymers based on molecular size Biochim Biophys Acta 1997 1335 161-72


Gutierrez PL Bachur NR Free radicals in quinone containing antitumor agents The nature of the diaziquinone (3,6-diaziridinyl-2-β-(carboxethoxylamino)-1-4 benzoquinone) free radical Biochim Biophys Acta 1983 78 37-41


Hagen IM Liu J Lykkefeldt J Wehr CM Ingersoll RT Vinarsky V Bartholomew JC Ames BN Feeding acetyl-L-carnitine and lipic acid to old rats significantly improves metabolic function while decreasing oxidative stress Proc Natl Acad Sci 2002 99 1870-5

Halestrap AP, Davidson AM. Inhibition of Ca2+(+)-induced large-amplitude swelling of liver and heart mitochondria by cyclosporin is probably caused by the inhibitor binding to mitochondrial-matrix peptidyl-prolyl cis-trans isomerase and preventing it interacting with the adenine nucleotide translocase. Biochem J 1990; 268:153-60.


Hiebert LM, Liu JM Heparin protects cultured arterial endothelial cells from damage by toxic oxygen metabolites Atherosclerosis 1990, 83 47-51

Higuchi M, Honda T, Proske RJ, Yeh ET Regulation of reactive oxygen species-induced apoptosis and necrosis by caspase 3-like proteases Oncogene 1998, 17 2753-60


Hjerten S Pan H Puriﬁcation and characterization of two forms of a low-afﬁnity Ca2+-ATPase from erythrocyte membranes Biochim Biophys Acta 1983 728 281-8

Hockenbery DM Oltvai ZN Yin XM Milliman CL Korsmeyer SJ Bcl-2 functions in an antioxidant pathway to prevent apoptosis Cell 1993 75 241-51

Hogberg J Larsson RE Kristoferson A Orrenius S NADPH-dependent reductase solubilized from microsomes by peroxidation and its activity Biochem Biophys Res Commun 1974 56 836-42


Hwang T1 Preminger GM Pointecker J Pak CY Urinary glycosaminoglycans in normal subjects and patients with stones J Urol 1988 139 995-7


Insellmann G Hannemann J Baumann K Cyclosporine A induced lipid peroxidation and influence on glucose-6-phosphatase in rat hepatic and renal microsomes Res Commun Chem Pathol Pharmacol 1990 68 189-203

Iritani N Nogi I Effect of spinach and wakame on cholesterol turnover in the rat Atherosclerosis 1972 15 87-92

Ishikawa Y Kitamura M Inhibition of glomerular cell apoptosis by heparin Kidney Int 1999 56 954-63

Ito H Kasagi N Shomori K Osaki M Adachi H Apoptosis in the human allografted kidney Analysis by terminal deoxyribonucleotidyl transferase-mediated DUTP-biotin nick end labeling Transplantation 1995 60 794-8
Ito K, Inoue S, Yamamoto K, Kawanishi S 8-Hydroxydeoxyguanosine formation at the 5' site of 5'-GG-3' sequences in double-stranded DNA by UV radiation with riboflavin J Biol Chem 1993, 268 13221-7

Jabs T Reactive oxygen intermediates as mediators of programmed cell death in plants and animals Biochem Pharmacol 1999, 57 231-45

Jain S, Bicknell GR, Nicholson ML Tacrolimus has less fibrogenic potential than cyclosporin A in a model of renal ischaemia-reperfusion injury Br J Surg 2000, 87 1563-8


Jiang T Acosta D Jr Mitochondrial Ca2+ overload in primary cultures of rat renal cortical epithelial cells by cytotoxic concentrations of cyclosporine a digitized fluorescence imaging study Toxicology 1995 95 155-66


John GT Infections after renal transplantation in India Indian J Nephrol 2003 13 14-19

Josephine A Veena CK Amudha G Preetha SP Sundarapandian R Varalakshmi P Sulphated polysaccharides – a new insight in the prevention of Cyclosporine A induced glomerular injury Basic Clin Pharmacol Toxicol 2007 (Accepted)

Josephine A Veena CK Amudha G Preetha SP Varalakshmi P Protective role of sulphated polysaccharides in abating the hyperlipidemic nephropathy provoked by cyclosporine A Arch Toxicol 2006a (In press)

Josephine A Veena CK Amudha G Preetha SP Varalakshmi P Evaluating the effect of sulphated polysaccharides on cyclosporine a induced oxidative renal injury Mol Cell Biochem 2006b 287 101-8


Moron MS, Depeu MD, Mannervik B. Levels of glutathione, glutathione reductase and glutathione S-transferase activities in rat lung and liver. Biochim Biophys Acta 1979, 582: 67-78


Murray BM, Paller MS, Ferris TF Effect of cyclosporine administration on renal hemodynamics in conscious rats Kidney Int 1985, 28 767-74


Nakagawa T Zhu H, Morishima N, Li E, Xu J, Yankner BA, Yuan J Caspase-12 mediates endoplasmic-reticulum-specific apoptosis and cytotoxicity by amyloid-beta Nature 2000 403 98-103


Nathan C Nitric oxide as a secretory product of mammalian cells FASEB J 1992 6 3051-64


Oltvai ZN, Millman CL, Korsmeyer SJ. Bcl-2 heterodimerizes in vivo with a conserved homolog, Bax, that accelerates programmed cell death Cell 1993, 74: 609-19

Omaye S1, Turnbull JD, Sauberlich HE. Selected methods for the determination of ascorbic acid in animal cells, tissues, and fluids Methods Enzymol 1979, 62: 3-11

Oni VE. Hepatoprotective effect of some edible mushrooms Phytother Res 1996, 10: 536-8


XXIII


Parekh AC, Jung DH. Cholesterol determination with ferric chloride-uranium acetate and sulfuric acid-ferrous sulfate reagents. Anal Chem 1970, 42 1423-7


Raghavendran HR, Sathivel A, Devagi T. Hepatoprotective nature of seaweed alcoholic extract on acetaminophen induced hepatic oxidative stress. J Health Science. 2004; 50 42-6


Reddi AS Glomerular and urinary glycosaminoglycans in diabetic rats Chin Chim Acta 1990, 189 211-20


Richter C Kass GF Oxidative stress in mitochondria its relationship to cellular Ca2+ homeostasis cell death, proliferation, and differentiation Chem Biol Interact 1997 77 1-23

Richter C Pro-oxidants and mitochondrial Ca2+ their relationship to apoptosis and oncogenesis FEBS Lett 1993 325 104-7


Robinson D Price RG Dance N Rat-urine glycosidases and kidney damage Biochem 11967 102 533-8

Romero IC Reckelhoff JF State-of-the-Art lecture Role of angiotensin and oxidative stress in essential hypertension Hypertension 1999 34 943-9

Rosalki SB Wilkinson IH Urinary lactic dehydrogenase in renal disease Lancet 1959 2 327-8

Rosenblit PD Metzger RP Wicke AN Effect of streptozotocin diabetes on acid phosphatase and selected glycosidase activities of serum and various rat organs Proc Soc Exp Biol Med 1974 145 244-8


Rotruck JT Pope AL Ganther HE Swanson AB Haileman DG Hoekstra WG Selenium biochemical role as a component of glutathione peroxidase Science 1973 179 588-90

Rouser G, Fleischer S, Yamamoto A Two dimensional thin layer chromatographic separation of polar lipids and determination of phospholipids by phosphorus analysis of spots Lipids 1970 5 494-6


Schaeffer DJ, Kvylos VS. Anti-HIV activity of extracts and compounds from algae and cyanobacteria. Fctoxicol Environ Saf 2000, 45: 208-27


Schindowski K, Leutner S, Muller WE, and Eckert A. Age-related changes of apoptotic cell death in human lymphocytes. Neurobiol Aging 2000, 21: 661-70


Schwartzman RA, Cidlowski JA Apoptosis the biochemistry and molecular biology of programmed cell death Endocr Rev 1993, 14 133-51

Sedlak J Lindsay RH Estimation of total, protein-bound, and nonprotein sulphydryl groups in tissue with Ellman's reagent Anal Biochem 1968, 25 192-205

Serino F Grevel I, Napoli KL, Kahan BD, Strobel HW Oxygen radical formation by the cytochrome P450 system as a cellular mechanism for cyclosporine toxicity Transplant Proc 1994 26 2916-7

Shanmugam M Mody KH Heparrnad-active sulphated polysaccharides from marine algae as potential blood anticoagulant agents Current Science 2000, 79 1672-83

Shaw AS Dustin ML Making the T cell receptor go the distance a topological view of T cell activation Immunity 1997 6 361-9

Shi S Zheng S Iia C Zhu Y Xie H The effect of an antioxidant tea polyphenols on cell apoptosis in rat model of cyclosporine-induced chronic nephrotoxicity Zhonghua Wai Ke Za Zhi 2002 40 709-12


Shihab FS Andoh TF Tanner AM Bennett WM Sodium depletion enhances fibrosis and the expression of TGF-beta1 and matrix proteins in experimental chronic cyclosporine nephropathy Am J Kidney Dis 1997 30 71-8

Shihab FS Andoh TF Tanner AM Yi H Bennett WM Expression of apoptosis regulatory genes in chronic cyclosporine nephrotoxicity favors apoptosis Kidney Int 1999 56 2147 59

Shihab FS Bennett WM Yi H Andoh TF Pirtendone treatment decreases transforming growth factor-beta1 and matrix proteins and ameliorates fibrosis in chronic cyclosporine nephrotoxicity Am J Transplant 2002 2 111-9

Shimizu H Kumai T Kobayashi S Involvement of tyrosine hydroxylase upregulation in cyclosporine-induced hypertension Jpn J Pharmacol 2001 85 306-12

Shimizu S Narita M Isunimoto Y Bcl-2 family proteins regulate the release of apoptogenic cytochrome c by the mitochondrial channel VDAC Nature 1999 399 483-7

Shin YH Lee SH Mun KC Effect of melatonin on the antioxidant enzymes in the kidneys of cyclosporine-treated rats Transplant Proc 2002 34 2650-1


Wong VY, Laping NJ, Nelson AH, Contino LC, Olson BA, Gygielko E, Campbell WG Jr, Barone F, Brooks DP. Renoprotective effects of carvedilol in hypertensive-


Zhang EX Yu L1 Xiao X Studies on oxygen free radical scavenging effect of polysaccharide from Sargassum thunbergii Chinese J Mar Drugs 1995 53 1-4


Zhang Q Li N Liu X Zhao Z Li Z Xu Z The structure of a sulfated galactan from Porphyrha haitanensis and its in vivo antioxidant activity Carbohydr Res 2004 339 105-11

Zhang Q Li N Zhao T Qi H Xu Z Li Z Fucoidan inhibits the development of proteinuria in active Heymann nephritis Phytother Res 2005 19 50-5

Zhang Q Li N Zhou G Liu X Xu Z Li Z In vivo antioxidant activity of polysaccharide fraction from Porphyrha haitanensis (Rhodephyta) in aging mice Pharmacol Res 2003a 48 151-5

Zhang Q Li Z Xu Z Niu X Zhang H Effects of fucoidan on chronic renal failure in rats Planta Med 2003b 69 537-41

Zhao X Xue CH Li Z1 Cai YP Liu HY QI HT Antioxidant and hepatoprotective activities of low molecular weight sulfated polysaccharide from Laminaria japonica J Appl Phycol 2004 16 111-115


