

References

Abdul-Gayom AA, Ali BH, Abdel Raza KM, Bashir AA and Warsha GHY. (1994):

Effect of gentamicin-induced nephrotoxicity on some carbohydrate metabolic pathways in the rat renal cortex. Arch Toxicol 68:643-74.

Abdulhakeem A. AL-Majed, Adel M. Mostafa, Ammar C. AL-Rikabi and Othman A. AL-Shabanah.(2002):

Protective effect of oral Arabic gum administration on gentamicin-induced nephrotoxicity in rats. Pharmacological Research. Vol. 46, NO. 5

Abdulhakeem A. Al-Majed, Adel R. A. Abd-Allah, Ammar C. Al-Rikabi, Othman A. Al-Shabanah and Adel M. Mostafa. (2003):

Effect of oral administration of arabic gum on cisplatin-induced nephrotoxicity in rats. J Biochem Moleccular Toxicology vol.17: No. 3

Adel R. A. Abd-Allah, Abdulhakeem A. Al-Majed, Adel M. Mostafa , Othman A. Al-Shabanah, Ayman Gamal el-Din and Mahmoud N. Nagi (2002):

Protective effect of arabic gum against cardiotoxicity induced by doxorubicin in mice: a possible mechanism of protection. J Biochem Moleccular Toxicology vol.16: No.5

Ali BH.(2004):

Dose gum Arabic have antioxidant action in rat kidney? Ren. Fail.26(1):1-3

Ali A.A., Ali K.E., Fadlalla A., Khalid K.E., (2008):

The effects of G.A. oral treatment on the metabolic profile of chronic renal failure patients under regular haemodialysis in Central Sudan. Nat. Prod. Res. 22, 12–21.

Ali B.H., Al-Qarawi A.A., Haroun E.M. and Mousa H.M. (2003):

The effect of treatment with G.A. on gentamicin nephrotoxicity in rats: a preliminary study. Ren. Fail.25, 15–20.

Al-Mosawi AJ.(2004):

Acacia gum supplementation of a low-protein diet in children with end-stage renal disease.Pediatr Nephrol. 19(10):1069-70.

Anwar A., Shifow K., Vijar Kumar M., U.R.Naidu and K.S.Ratnakar (2000):

Nephron Number, Hypertension, Renal Disease, and Renal Failure. J Am Soc Nephrol.16(9):2557-64.

Atsushi Kawase, Noriko Hirata, Masashi Tokunaga, Hideaki Matsuda and Masahiro Iwaki.(2007):

Gum Arabic enhances intestinal calcium absorption in rats. Journal of Health Science,53: (5)622-624.

Australian/ New Zealand Heart Failure Research Collaborative Group, (1997):

Randomised, placebo-controlled trial of carvedilol in patients with congestive heart failure due to ischaemic heart disease. Lancet ; 349:375-80.

Ayman M., Gamal el-Din and Abd-Allah M. Al-Bekairi (2006):

Carvedilol, a beta adrenoceptor blocker with antioxidant potential, attenuates cisplatin-induced nephrotoxicity in rats. Journal of Applied Sciences Research . 2 (6):331-335.

Badreldin H Ali, Suhail Al-Salam, Ishaq Al Husseni, Rana R Kayed, Noura Al-Masroori, Thuriya Al-Harthi, Mohamed Al Zaabi and Abderrahim Nemmar (2010):

Effects of Gum Arabic in rats with adenine-induced chronic renal failure. Exp. Biol. Med. 235:373-382

Bartsch W., Sponer G., Dietmann K. and Kohler M. (1982):

Comparative investigation on the cardio-protective action of the beta-blockers carazolol, propranolol and pindolol in rats. Br J Pharmacol. 31(11):1885-8.

Basu S., Senior R., Raval U., van der Does R., Bruckner T. and Lahiri A. (1997):

Beneficial effects of intravenous and oral carvedilol treatment in acute myocardial infarction. A placebo-controlled, randomized trial. Circulation. 96(1):183-91.

Beauchamp D., G. Laurent, L. Grenier, P. Gourde, J. Zanen, J. A. Heuson- Stiennon, and M. G. Bergeron. (1997):

Attenuation of gentamicin induced nephrotoxicity in rats by fleroxacin. *Antimicrob. Agents Chemother.* **41**:1237–1245.

Bliss DZ, Jung HJ, Savik K, Lowry A, LeMoine M, Jensen L, Werner C and Schaffer K.(2002):

Supplementation with dietary fiber improves fecal incontinence. *ACP J Club.*136(1):23.

Bohm M., Flesch M. and Schnabel P. (1997):

Beta-adrenergic signal transduction in the failing and hypertrophied myocardium. *J Mol Med.* 75(11-12):842-8.

Brooks D.P., Short B.G. and Cyronak M.J.(1993):

Comparison between carvedilol and captopril in rats with partial ablation-induced chronic renal failure. *Br J Pharmacol.* 109: 581-586

Buffo RA, Reineccius GA and Oehlert GW (2001):

Factors affecting the emulsifying and rheological properties of gum acacia in beverage emulsions. *Food Hydrocolloids* 15:53–66

Burn, J.H. (1952):

Practical pharmacology. Blackwell Scientific Publications; P35-37.

Chen B.P., and Chow M.S. (1997):

Focus on carvedilol: a novel beta-adrenergic blocking agent for the treatment of congestive heart failure. Formulary 32(8): 795-805.

Clark (1926):

Heffter's Handbook of experimental pharmacology 4,185. J. Physiol. 61, 547

Codipilly CN and Wapnir RA.(2004):

Proabsorptive action of gum arabic in isotonic solutions orally administered to rats. II. Effects on solutes under normal and secretory conditions. Dig Dis Sci. 49(9):1473-8.

Cohn J.N. (1997):

The management of chronic heart failure. N Engl J Med .335:490-8.

Collins TF, Welsh JJ, Black TN, Graham SL and Brown LH. (1999):

Study of the teratogenic potential of gum arabic. Food Chem Toxicol . 25(11):815-21

Devinder Singh, Vikas Chander and Kanwaljit Chopra.(2003):

Carvedilol, an Antihypertensive Drug with Antioxidant Properties, Protects against Glycerol-Induced Acute Renal Failure. Am J Nephrol 23:415-421

Devinder Singh, Vikas Chander and Kanwaljit Chopra (2004):

Carvedilol attenuates ischemia–reperfusion-induced oxidative renal injury in rats . Fundamental & Clinical Pharmacology, Volume 18, Number 6, pp. 627-634(8)

Doi Y, Ichihara T, Hagiwara A, Imai N, Tamano S, Orikoshi H, Ogasawara K, Sasaki Y, Nakamura M and Shirai T.(2006):

A ninety-day oral toxicity study of a new type of processed gum arabic, from Acacia tree (*Acacia senegal*) exudates, in F344 rats. Food Chem Toxicol. 44(4):560-6.

Drábiková K, Jancinová V, Nosál' R, Solík P, Murín J and Holománová D.(2006):

On the antioxidant activity of carvedilol in human polymorphonuclear leukocytes in vitro and ex vivo. Neuro Endocrinol Lett. 27 Suppl 2:138-40.

Dunn C.J., Lea A.P. and Wagstaff A.J.(1997):

Carvedilol. A reappraisal of its pharmacological properties and therapeutic use in cardiovascular disorders. Drugs. Jul; 54(1):161-85.

Dury R.A.B. and Wallington E.A. (1967):

Carleton Histological Technique. 4th ed. Oxford University Press, Oxford, P. 129.

Dziezak JD (1999):

A focus on gums. Food Technol. 45:116–132

Eichhorn E.J. and Bristow M.R. (1997):

Practical guidelines for initiation of beta-adrenergic blockade in patients with chronic heart failure [Editorial]. Am J Cardiol. 79:794-8

Elisenber JM, Koffer H, Glick RA and Cornvell ML.(1987):

What is the cost of nephrotoxicity associated with aminoglycosides? Ann Intern Med .107:900-9

Elliott W. C., and Patchin D.S. (1995):

Effects and interactions of gentamicin, polyaspartic acid and diuretics on urine calcium concentration. J. Pharmacol. Exp. Ther. 273:280–284.

FAO (1999):

Gum arabic. (Food and nutrition paper 52, addendum 7) FAO, Rome

Feuerstein G.and Yue T. (1999):

Carvedilol: A Nonselective Beta-blocking Agent With Antioxidant action. J. of Cardiovascular Pharmacology 123: 24-33

Ford D. M., R. E. Thieme, C. A. Lamp, S. J. Covington and B. A. Molitoris (1995):

HWA-448 reduces gentamicin toxicity in LLC-PK1 cells. J. Pharmacol. Exp. Ther. **274**:29–33.

Friis UG, Jensen BL, Aas JK and Skott O. (1999):

Calcium channel blockers attenuate cardiovascular responses to carvedilol in hypertensive patients. cells.Circ Res. **84**(8):929-36.

Frishman W.H., Alpert J.S., Bakx A.L, Braun S., Schneeweiss A., Tzivoni D. and Kobrin I. (1997):

Antianginal and anti-ischemic effects of mibefradil in the treatment of patients with chronic stable angina pectoris. Am J Cardiol. **80**(4B):20C-26C.

Galley HF. (2000):

Can acute renal failure be prevented? J R Coll Surg Edinb **45**(1):44-50.

Gamal el-din A.M., Mostafa A.M. Al-Shabanah O.A. Al-Bekairi A.M. and Nagi, M.N.(2003):

Protective effect of arabic gum against acetaminophen-induced hepatotoxicity in mice. Pharmacol. Res. **48**, 631–635.

Gilbert E.M., Anderson J.L., Deitchman D., Yanowitz F.G., O'Connell J.B. and Renlund, D.G. (1996):

Long-term beta-blocker vasodilator therapy improves cardiac function in idiopathic dilated cardiomyopathy: a double-blind, randomized study of bucindolol versus placebo. *Am J Med.* 88:223-9

Giuliano R. A., G. A. Verpooten, L. Verbist, R. Wedeen, and M. E. De Broe.(1996):

In vivo uptake kinetics of aminoglycosides in the kidney cortex of rats. *J. Pharmacol. Exp. Ther.* **236**:470–475.

Goodrum L. J., Patel A., Leykam J. F. and Kieliszeswki M. J.(2000):

Gum arabic glycoprotein contains glycomodules of both extension and arabinogalactan-glycoproteins. *Phytochemistry* 54 (1), 99–106

Göttmann Uwe , Oltersdorf Jens, Schaub Meike , Knoll Thomas , Back Walter E. , van der Woude, Fokko J., Braun and Claude (2003):

Oxidative Stress in Chronic Renal Allograft Nephropathy in Rats: Effects of Long-term Treatment with Carvedilol, BM 91.0228, or Alpha tocopherol. *Journal of Cardiovascular Pharmacology*:Vol. 42-Issue 3- pp 442-450.

Greenberg S.G., Lorenz J.N., He X.-R., Schnermann J.B. and Briggs J.P. (1993):

Effects of Carvedilol, a Vasodilator- β -Blocker, in Patients With Congestive Heart Failure Due to Ischemic Heart Disease. *Am. J. physiol.* 265:F578-f583.

Hallet GI and Cook JG.(1971):

Reduced nicotinamide adenine dinucleotide for emergency blood urea estimation .*Clin. Chim. Acta.* 35:33-7.

Hill B.A. (1971):

Principles of medical statistics 9th ed. London: limited publication, 147-283.

Hjalmarson A., Kneider M. and Waagstein F. (1997):

The role of beta-blockers in left ventricular dysfunction and heart failure. *Drugs.* 54(4):501-10.

Honda M., Nozawa T., Igarashi N., Inoue H., Arakawa R., Ogura Y., Okabe H. and Taguchi M. (2005):

Effect of CYP2D6 on the pharmacokinetics of R- and S-carvedilol in healthy Japanese volunteers. *Biol Pharm Bull.* 28(8):1476-9

Huang H, Shan J, Pan XH, Wang HP andQian LB.(2007):

Carvedilol protected diabetic rat hearts via reducing oxidative stress. *J Zhejiang Univ Sci B.*(9):725-31.

Ibrahim MA, Kohn N, Wapnir RA.(2004):

Proabsorptive effect of gum arabic in isotonic solutions orally administered to rats: effect on zinc and other solutes. *J Nutr Biochem.* 15(3):185-9.

Idris O.H.M., Williams P.A. and Phillips G.O., (1998):

Characterization of gum from *Acacia senegal* trees of different age and location using multidetection gel permeation chromatography. *Food Hydrocoll.* 12, 379–388.

Islam AM, Phillips GO, Sljivo MJ and Williams PA (1997):

A review of recent developments on the regulatory, structural and functional aspects of gum arabic. *Food Hydrocolloids* 11:493–505

Joseleau J-P and Ullmann G (1999):

Biochemical evidence for the site of formation of gum arabic in *Acacia senegal*. *Phytochemistry* 29:3401–3405

Jovanovic D,Jovovic D, Mihailovic-Stanojevic N, Miloradovic Z, Dimitrijevic J, Maksic N and Djukanovic L.(2005):

nfluence of carvedilol on chronic renal failure progression in spontaneously hypertensive rats with adriamycin nephropathy. *Clin Nephrol.* 2005 Jun;63(6):446-53.

Kaloyanides G. J. (1994):

Aminoglycoside-induced functional and biochemical defects in the renal cortex. *Fundam. Appl. Toxicol.* 4:930–943.

Karamalla KA, Siddig NE, Osman ME (1998):

Analytical data for Acacia senegal var. senegal gum samples collected between 1993 and 1995 from Sudan. Food Hydrocolloids 12:373–378

Kattumuri V, Katti K, Bhaskaran S, Boote EJ, Casteel SW, Fent GM, Robertson DJ, Chandrasekhar M, Kannan R and Katti KV.(2007):

Gum arabic as a phytochemical construct for the stabilization of gold nanoparticles: in vivo pharmacokinetics and X-ray-contrast-imaging studies. Small. 3(2):333-41.

Kawada T, Ishibashi T, Nakazawa M, Satoh S and Imai S.(1990):

Adrenoceptor-blocking activity and cardiohemodynamic effects of carvedilol in animals. J Cardiovasc Pharmacol.16(1):147-53.

Keating G.M. and Jarvis B. (2003):

Carvedilol: a review of its use in chronic heart failure. Drugs. 63(16):1697-741.

Khalil U. Rehman, Champa N. Codipilly and Raul A. Wapnir (2004):

Modulation of Small Intestinal Nitric Oxide Synthase by Gum Arabic. Experimental Biology and Medicine 229:895-901

Klotman P. E., and Yarger W.E. (1994):

Reduction of renal blood flow and proximal bicarbonate reabsorption in rats by gentamicin. *Kidney Int.* **24**:638–643.

Kondo S. (1994):

Development of arbekacin and synthesis of new derivatives stable to enzymatic modifications by methicillin-resistant *Staphylococcus aureus*. *Jpn. J. Antibiot.* **47**:561–574.

Kowalski J, Banach M, Barylski M, Irzmanski R and Pawlicki L.(2008):

Carvedilol modifies antioxidant status of patients with stable angina. *Cell Mol Biol Lett.***13**(2):230-9.

Krämer B.K., Ress K.M., Erley C.M. and Risler T.(1992):

Pharmacokinetic and blood pressure effects of carvedilol in patients with chronic renal failure. *Eur J Clin Pharmacol.***43**(1):85-8

Krum H. (2001):

New and emerging pharmacological strategies in the management of chronic heart failure. *Curr Opin Pharmacol.***1**(2):126-33.

Kumar KV, Shifow AA, Naidn MUR, Ratnaker KS.(2000):

Carvedilol: a beta-blocker with antioxidant property protects against gentamicin-induced nephrotoxicity in rats. *Life. Sci.* 66:2603-11

Landau D., and K. K. Kher(1997):

Gentamicin induced Bartter-like syndrome. *Pediatr. Nephrol.* 11:737–740.

Laurent G., B. K. Kishore, and P. M. Tulken (1990):

Aminoglycoside induced phospholipidosis and nephrotoxicity. *Biochem. Pharmacol.* **40**:2383–2392.

Magnus, (1904):

Pflugers Arch. Ges. Physiol. 102, 123. quoted from pharmacological experiments on Isolated preparations, 1970 by the staff of department of pharmacology, University of Edinburgh. Ess. Livingstone, Edinburgh, London

Mahendran T., Williams P. A., Phillips G. O., AL-Assaf S., and Baldwin T.C.(2008):

New Insights into the Structural Characteristics of the Arabinogalactan-Protein (AGP) Fraction of Gum Arabic. *J. Agric. Food Chem.* 56, 9269–9276.

Melnick RL, Huff J, Haseman JK, Dieter MP, Grieshaber CK, Wyand DS, Russfield AB, Murthy AS, Fleischman RW and Lilja HS. (1993):

Chronic effects of agar, guar gum, gum arabic, locust-bean gum, or tara gum in F344 rats and B6C3F1 mice. Food Chem Toxicol 21(3):305-11

Mochida S., Ohno A., Arai M., Tamatani T., Miyasaka M. and Fujiwara K. (1996):

Role of adhesion molecules in the development of massive hepatic necrosis in rats. Hepatology 23, 320–328.

Morgan T. (1994):

Clinical pharmacokinetics and pharmacodynamics of carvedilol. Clin Pharmacokinet. 26(5):335-46.

Nasir O, Artunc F, Saeed A, Kambal MA, Kalbacher H, Sandulache D, Boini KM, Jahovic N and Lang F.(2008):

Effects of gum arabic (Acacia senegal) on water and electrolyte balance in healthy mice. J Ren Nutr. 18(2):230-8.

Neaas J., Barto L., Petrielkova J., Kollar P., Kotolova H., Strnadova V., Fra P., Barto L., Fra L., Klusakova J. and Alplachta J. (2001):

Protective effects of B-blocker carvedilol by expermintally induced solar burn in rats. Acta Vet Brno. 70:397-401.

Neugebauer G., Akpan W., von Mollendorff E., Neubert P. and Reiff K. (1988):

Pharmacokinetics and disposition of carvedilol in humans. J Cardiovasc Pharmacol. 10 Suppl 11:S85-8.

Nichols A.J., Gellai M., and Ruffolo R.R. Jr. (1991):

Studies on the mechanism of arterial vasodilation produced by the novel antihypertensive agent, carvedilol. Fundam Clin Pharmacol 5:25-38.

Nishi KK, Antony M and Jayakrishnan A.(2007):

Synthesis and evaluation of ampicillin-conjugated gum arabic microspheres for sustained release. J Pharm Pharmacol. 59(4):485-93.

Nishi KK, Antony M, Mohanan PV, Anilkumar TV, Loiseau PM and Jayakrishnan A.(2007):

Amphotericin B-gum arabic conjugates: synthesis, toxicity, bioavailability, and activities against Leishmania and fungi. Pharm Res. 24(5):971-80.

Onishi T, Umemura S, Yanagawa M, Matsumura M, Sasaki Y, Ogasawara T and Ooshima T.(2008):

Remineralization effects of gum arabic on caries-like enamel lesions. Arch Oral Biol. 53(3):257-60.

Packer M. (1996):

Beta-blockade in the management of chronic heart failure. Eur Heart J. 17(Suppl B):21-3.

Padi Satyanarayana S. V. and Chopra Kanwaljit (2002):

Salvage of Cyclosporine-induced oxidative stress and renal dysfunction by Carvedilol . Nephron vol. 92, n°3, pp. 685-692 (39 ref.)

Paulo J., Oliveira A., James A., Bjork B., Maria S., Santos A., Richard L., Leino C., M. Kent, Froberg D., Antó'nio J., MorenoA. and Kendall B. Wallaceb(2004):

Carvedilol-mediated antioxidant protection against doxorubicin-induced cardiac mitochondrial toxicity. Toxicology and Applied Pharmacology 200 : 159– 168

Phillips GO and Williams PA (2001):

Tree exudate gums: natural and versatile food additives and ingredients. Food Ingred Anal Int 23:26, 28

Picton L., Bataille I. and Muller G. (2000):

Analysis of a complex polysaccharide (gum arabic) by multi-angle laser light scattering coupled on-line to size exclusion chromatography and flow field flow fractionation. Carbohydrate Polymers, Volume 42, Number 1 , pp. 23-31(9)

Ramsammy L., C. Josepovitz B. Lane and G. J. Kaloyanides (1999):

Polyaspartic acid inhibits gentamicin-induced perturbation of phospholipids metabolism. *Am. J. Physiol.* 258:C1141–C1149.

Ray AK, Bird PB, Iacobucci GA and Clark BC Jr (1999):

Functionality of gum arabic. Fractionation, characterization and evaluation of gum fractions in citrus oil emulsions and model beverages. *Food Hydrocolloids* 9:123–131

Rehman KU, Wingertzahn MA, Teichberg S, Harper RG and Wapnir RA.(2003):

Gum arabic (GA) modifies paracellular water and electrolyte transport in the small intestine. *Dig Dis Sci.* 48(4):755-60.

Ruffolo R.R. Jr and Feuerstein G.Z. (1997):

Pharmacology of carvedilol: rationale for use in hypertension, coronary artery disease, and congestive heart failure. *Cardiovasc. Drugs Ther.* 11 Suppl 1:247-56.

Rui M. V. Abreu , Dario J. S. L. Santos and António J. M. Moreno.(2000):

Effects of Carvedilol and Its Analog BM-910228 on Mitochondrial Function and Oxidative Stress. *Journal of pharmacology and expermental therapeutics* (4): 121-30.

Sander I, Raulf-Heimsoth M, Wiemer K, Kespohl S, Brüning T and Merget R.(2006):

Sensitization due to gum arabic (*Acacia senegal*): the cause of occupational allergic asthma or crossreaction to carbohydrates? *Int Arch Allergy Immunol.* 141(1):51-6.

Sandhya P., Mohan Das S. and Varalakshmi P.(1995):

Role of DL-alpha-lipoic acid in gentamicin-induced nephrotoxicity. *Mol Cell Biol.* 145: 11- 7 .

Sandoval R., J. Leiser, and B. A. Molitoris (1998):

Aminoglycoside antibiotics traffic to the Golgi complex in LLC-PK1 cells. *J. Am. Soc. Nephrol.* **9**:167–174.

Schemer (1967):

The blood morphology of laboratory, 3rd ed., P.43. Davis F.A. Company, Philadelphia.

Schunkert H., Ingelfinger J.R. and Dzau V.J. (1991):

Evolving concepts of the intrarenal renin-angiotensin system in health and disease: contributions of molecular biology. *Ren Physiol Biochem.*14(4-5):146-54.

Siddig N. E.; Osman M. E.; Assaf S. A.; Phillips G. O.;Williams P. A.(2005):

Chemical investigation of the structural basis of the emulsifying activity of gum arabic. *Food Hydrocolloids* 19, 687–702.

Singh B.N. (2005):

Beta-Adrenergic blockers as antiarrhythmic and antifibrillatory compounds. J Cardiovasc Pharmacol Ther. 10 Suppl 1:S3-S14.

Talbert R.L. (2004):

Pharmacokinetics and pharmacodynamics of beta blockers in heart failure. Heart Fail Rev. 9(2):131-7.

Tanimoto K., Sugiyama F., Goto Y., Ishida J., Takimoto E., and Yagami K. (1994):

The Inhibitory Effects of Carvedilol Against Arrhythmias Induced by Coronary Reperfusion in Anesthetized Rats. J. Biol. Chem. 269:31334-31337.

Teichberg S, Wingertzahn MA, Moyse J, Wapnir RA.(2000):

Effect of gum arabic in an oral rehydration solution on recovery from diarrhea in rats. J Pediatr Gastroenterol Nutr. 29(4):411-7.

Tomlinson B., Bompert F., Graham B.R., Liu J.B. and Prichard B.N. (1988):

Vasodilating mechanism and response to physiological pressor stimuli of acute doses of carvedilol compared with labetalol, propranolol and hydralazine. Drugs. 36 Suppl 6:37-47.

Trommer H. and Neubert R.H. (2005) :

The examination of polysaccharides as potential antioxidative compounds for topical administration using a lipid model system. *Inter. J. Pharm.* 298, 153–163.

Turvill JL, Wapnir RA, Wingertzahn MA, Teichberg S and Farthing MJ.(2000):

Cholera toxin-induced secretion in rats is reduced by a soluble fiber, gum arabic. *Dig Dis Sci.* 45(5):946-51.

Verbeken D., Dierckx S. and Dewettinck K.(2003):

Exudate gums: occurrence, production, and applications. *Appl Microbiol Biotechnol* 63:10–21

Wadood A, Wadood N. and Shah SA.(1999):

Effects of *Acacia arabica* and *Caralluma edulis* on blood glucose levels of normal and alloxan diabetic rabbits. *J Pak Med Assoc.*39(8):208-12.

Walker R. J. and Duggin G.G. (1999):

Drug nephrotoxicity. *Annu. Rev. Pharmacol. Toxicol.* **28**:331–345.

Walker PD and Shah SV. (1987):

Gentamicin enhanced production of hydrogen peroxide by renal cortical mitochondria. *Am J. physiol.* 53:495-9.

Walker PD. and Shah SV.(1988):

Evidence suggesting a role for hydroxyl radical in gentamicin-induced acute renal failure in rats. *J. Clin. Invest.* 81:334- 41.

Waszczykowska, E.; Blaszczyk, J.; Sysa-Jedrzejowska, A.; Robak, E. (1997):

Correlation between serum malonyl dialdehyde concentration and disease activity in patients with systemic lupus erythematosus. *Med. Sci. Monit.* 3(6): 831-834.

Weiss R, Ferry D, Pickering E, Smith LK, Dennish G 3rd, Krug-Gourley S Lukas MA (1998):

Effectiveness of three different doses of carvedilol for exertional angina. Carvedilol-Angina Study Group. *Am J Cardiol.* 82(8):927-31.

Willette RN, Aiyar N, Yue TL, Mitchell MP, Disa J, Storer BL, Naselsky DP, Stadel JM, Ohlstein EH, Ruffolo RR Jr.(1999):

In vitro and in vivo characterization of intrinsic sympathomimetic activity in normal and heart failure rats.*J Pharmacol Exp Ther.* 289(1):48-53.

Williams PA, Phillips GO (2000):

Gum arabic. In: Phillips GO, Williams PA (eds) *Handbook of hydrocolloids*. Woodhead, Cambridge, pp 155–168 .

Wingertzahn MA, Teichberg S and Wapnir RA (2001):

Stimulation of non-sodium-dependent water, electrolyte, and glucose transport in rat small intestine by gum arabic. Dig Dis Sci. 46(5):1105-12.

Yasunari K, Maeda K, Nakamura M, Watanabe T, Yoshikawa J and Asada A.(2004):

Effects of carvedilol on oxidative stress in polymorphonuclear and mononuclear cells in patients with essential hypertension. Am J Med. 2004 Apr 1;116(7):460-5 .

Yokoyama A.; Sato N.; Kawamura Y.; Hasebe N. and Kikuchi K. (2007):

Electrophysiological effects of carvedilol on rabbit heart pacemaker cells. Int Heart J.48(3):347-58

Yue TL., LPG., Barone FC., GU JL., Ruffolo RR. and Feurestein GZ. (1999):

Carvedilol, a new antihypertensive drug with unique antioxidant activity: potential role in cerebroprotection. Ann N Y Acad Sci. 738: 230- 42.

**Yue T.L., Cheng H.Y., Lysko P.G., McKenna P.J., Feuerstein R.,
and GU J.L. (1992):**

Carvedilol, a new vasodilator and beta adrenoceptor antagonist, is
an antioxidant and free radical scavenger. J Pharmacol Exp Ther
263:92-8.