

## **Publications**

Somani, S.M., Synthesis of disulphides of ephedrine and its analogs, M.S. Thesis, Duquesne University, Pittsburgh, PA, 1964.

Somani, S.M., Isolation of metabolites of pyridostigmine and neostigmine, Ph.D. Thesis, University of Liverpool, England, 1969.

Somani, S.M., Calvey, T.N., Wright, A. The excretion of hydroxyphenyltrimethylammonium in bile. *Br. J. Pharmacol.* 37: 528P-529P, 1969.

Somani, S.M., Calvey, T.N., and Wright, A., The biliary excretion of trimethyl-<sup>14</sup>C-(3-hydroxyphenyl) ammonium iodide and its metabolic products, *Eur. J. Pharmacol.*, 12:109-113, 1970.

Somani, S.M., Roberts, J.B., Thomas, B.H., and Wilson, A., Isolation and characterization of metabolites of neostigmine from rat urine. *Eur. J. Pharmacol.*, 12:114-119, 1970.

Calvey, T.N., Somani, S.M., and Wright A., Differences between the biliary excretion of trimethyl-<sup>14</sup>C-(3-hydroxyphenyl) ammonium iodide in Wistar and Gunn rats, *Biochem. J.*, 119:659-663, 1970.

Sapira, J.D., Somani, S.M., Shapiro, A.P., and Scheib, E.T., Some observations concerning mammalian indoxyl metabolism and its relationship to the formation of indigo pigments, *Metabolism*, 20:474-486, 1971.

Somani, S.M., Roberts, J.B., and Wilson, A., Metabolites of pyridostigmine in man, *Clin. Pharmacol. Therap.*, 13:393-399, 1972.

Moskowitz, B., Somani, S.M., and McDonald, R.H., Jr., Salicylate interaction with <sup>14</sup>C-Penicillin and <sup>14</sup>C-Secobarbital binding sites on human serum albumin, *Clin. Toxicology*, 6:247-256, 1973.

Somani, S.M. and Khurana, R.C., Mechanism of estrogen-imipramine interaction, *J. Amer. Med. Assoc.*, 223:560, 1973.

Somani, S.M., Distribution of neostigmine and its metabolites in rat tissues after acute and chronic administration, *Eur. J. Pharmacol.*, 30:336, 1975.

Somani, S.M., Schumacher, D., and McDonald, R.H., Jr., Pharmacokinetics of secobarbital in rabbit, *Arch. Int. Pharmacodyn.*, 215:301-317, 1975.

Somani, S.M. and Anderson, J.H., Hepatic sequestration of neostigmine and metabolites. *Drug Metabolism and Disposition: The biological fate of chemicals*, 3:275-282, 1975.

Somani, S.M. and Anderson, J.H., *In vitro* glucuronidation of 3-hydroxyphenyltrimethyl ammonium by rat liver microsomes, *Drug Metabolism and Disposition*, 5:15-18, 1977.

Bowser, D.V., Teece, R.G., and Somani, S.M., Identification of amino sugars in bacterial lipopolysaccharides by gas chromatography/electron impact and chemical ionization mass spectrometry. *Biomedical Mass Spectrometry*, 5:627-633, 1978.

Tin, A., Somani, S.M., Bada, H.S., and Khanna, N.N., Caffeine, theophylline and theobromine determinations in serum, saliva and spinal fluid, *Analytical Toxicology*, 3:26-29, 1979.

Bada, H.S., Khanna, N.N., Somani, S.M., and Tin, A.A., Interconversion of theophylline and caffeine in newborn infants, *J. Pediatrics*, 94:993-995, 1979.

Khanna, N.N., Bada, H.S., and Somani, S.M., Use of salivary concentrations in the prediction of serum, caffeine and theophylline concentrations in premature infants, *J. Pediatrics*, 96:494-499, 1980.

Somani, S.M., Teece, R.G., and Schaeffer, D.J., Identification of co-carcinogens and promoters from the environment: Industrial effluents and surface waters, *J. Toxicology and Environmental Health*, 6:317-333, 1980.

Janardan, K.G., Schaeffer, D.J., and Somani, S.M., Efficiencies of liquid-liquid extraction, carbon and XAD-2 absorption in isolating organic compounds from environmental sources, *Bulletin Environmental Contamination and Toxicology*, 24:145-151, 1980.

Somani, S.M., Khanna, N.N., and Bada, H.S., Caffeine and theophylline: Serum/CSF correlation in premature infants, *J. Pediatrics* 96, 1091-1093, 1980.

Somani, S.M., Chan, K., Dehghan, A., Calvey, T.N. Kinetics and metabolism of intramuscular neostigmine in myasthenia gravis. *Clin. Pharmacol. Ther.* 28: 64-68, 1980..

Schaeffer, D.J., Janardan, K.G., Somani, S.M., Easton, D., and Sherman, D., Multivariate statistical methods in toxicology: application to the analysis of outpatient clinical data of diphenylhydantoin and phenobarbital in the treatment of epilepsy, *Toxicol. and Appl. Pharmacol.*, 53:354-364, 1980.

Somani, S.M., Bajaj, R.A., and Calvey, T.N., Effect of phenobarbitone on the elimination of neostigmine and its metabolites in bile, *Biochem. Pharmacol.*, 29:2256-2257, 1980.

Somani, S.M., Calvey, T.N., Chan, K., and Dehghan, A., Kinetics and metabolism of intramuscular neostigmine in Myasthenia Gravis, *Clin. Pharmac. Thera.*, 28:64-68, 1980.

Schaeffer, D.J., Tigwell, D.C., Somani, S.M., Glave, W. B., and Janardan, K.G., Efficiencies of liquid-liquid extraction and XAD-4 and XAD-7 resins in collecting organic compounds from a coke plant effluent, *Bulletin Environmental Contamination and Toxicology*, 25:569-573, 1980.

Somani, S.M., Schaeffer, D.J., and Mack, J.O., Quantifying the toxic and mutagenic activity of complex mixtures using *S. typhimurium*, *J. Toxicol. Environment. Hlth.*, 7:643-653, 1981.

Somani, S.M. and Khanna, N.N., Methylxanthines in serum, saliva and spinal fluid of premature infants, *Seminars in Perinatology*, 5:346-350, 1981.

Calvey, T.N., Chan, K., Dehaghan, A., Somani, S.M., and Williams, N.E., Plasma concentration and urinary elimination of neostigmine after intramuscular administration to myasthenic patients, 6th Conf. on Myasthenia Gravis, *Annals of New York Acad. of Sci.*, 377:816-817, 1981.

Khanna, N.N., Somani, S.M., Boyer, A., Miller, J., Chua, C., and Menke, J.A., Cross-validation of serum to saliva relationships of caffeine, theophylline and total methylxanthines in neonates, *Developmental Pharmacology and Therapeutics*, 4:18-27, 1982.

Kaka, J.S., Somani, S.M., and Schaeffer, D.J., Metabolism and distribution of 2,4-Dimethylpheonal in rat, *Ecotoxicology and Environmental Safety*, 6:35-40, 1982.

Somani, S.M. and Khalique, A., Distribution and Metabolism of 2,4-Dichlorophenol in Rat, *J. Toxicol. Environment. Hlth.*, 9:889-897, 1982.

Somani, S.M., Smart, T., and Khalique, A., Metabolism of 2,4-Dichlorophenol by isolated perfused rat liver, *J. Toxicol. Environm. Hlth.*, 13:787-798, 1984.

Khanna, N.N. and Somani, S.M., Maternal coffee drinking and unusually high concentrations of caffeine in the newborn, *J. Toxicol. Clin. Toxicol.*, 22:473-483, 1985.

Somani, S.M. and Khalique, A., Physostigmine determination in plasma and brain by HPLC, *J. Analyt. Toxicol.*, 9(2):71-75, 1985.

Unni, L. and Somani, S.M., Binding of physostigmine to rat and human plasma and crystalline human serum albumin, *Life Sci.*, 37:1389-1396, 1985.

Boyer, A.W. and Somani, S.M., Pharmacokinetics of biliary excretion of  $^3\text{H}$ -physostigmine in rat, *Inter. de Pharm. de Therapie*, 278:180-192, 1985.

Somani, S.M. and Boyer, A., Urinary pharmacokinetics of physostigmine in rate, *Eur. J. Drug Metabol. Pharmacokinet.*, 10(4):343-394, 1985.

Somani, S.M. and Khalique, A., Distribution and pharmacokinetics of physostigmine in rat after i.m. administration, *Fundamental and Appl. Toxicol.*, 6:327-334, 1986.

Kamimori, G.H., Somani, S.M., Knowlton, R.G., and Perkins, R.M., Effects of obesity and exercise on the pharmacokinetics of caffeine in lean and obese volunteers, *Eur. J. Clin. Pharmacol.*, 31:595-600, 1987.

Unni, L. and Somani, S.M., Hepatic and muscle clearance of physostigmine in the rat, *Drug Metabolism and Disposition: The biological Fate of Chemicals*, 14(2):183-189, 1986.

Somani, S.M., Unni, L.K., and McFadden, D.L., Drug Interaction for plasma protein binding: Physostigmine and other drugs, *Int. J. Clin. Pharmacol. Therap. Toxicol.*, 25:412-416, 1987.

Giacobini E., Somani, S., McIlhany, M., Downen, M., and Hallak, M., Pharmacokinetics and pharmacodynamics of physostigmine after i.v. administration in beagle dogs, *Neuropharmacology*, 26:831-836, 1987.

Somani, S.M. and Khalique, A., Pharmacokinetics and pharmacodynamics of physostigmine in rat after i.v. administration, *Drug Metabolism and Disposition: The Biological Fate of Chemicals*, 15:627-633, 1987.

Somani, S.M., Effect of routes of administration on pharmacokinetics and pharmacodynamics of physostigmine in rat, *Proc. of the Sixth Medical Chemical Defense Bioscience Review*, pp. 715-718, 1987.

King, B.F. and Somani, S.M., Distribution of physostigmine and metabolites in brain subcellular fractions of the rat, *Life Sci.*, 41:2007-2015, 1987.

Somani, S.M., Pharmacokinetics and pharmacodynamics of physostigmine in the rat after oral administration, *Biopharmaceutics and Drug Disposition*, 10(2):187-203, 1989.

Somani, S.M. and Dube, S., *In Vivo* dose and concentration response relationship between physostigmine and cholinesterase activity in RBC and tissues of rat, *Life Sci.*, 44:1907-1915, 1989.

Scremin, O.U., Scremin, A.M.E., Somani, S.M., and Giacobini, E., Brain regional distribution of physostigmine and its relation to cerebral blood flow following intravenous administration in rats, *J. Neuroscience Research*, 26:188-195, 1990.

Frank, S., Somani, S.M., and Kohnle, M., Effect of exercise on pharmacokinetics of propranolol in man, *Eur. J. Clin. Pharmacol.*, 39: 391-394, 1990.

Hetzler, R.K., Knowlton, R.G., Somani, S.M., Brown, D.D., and Perkins, R.M., Effects of paraxanthine on free fatty acid mobilization after intravenous caffeine administration in humans, *J. Applied Physiol.*, 68(1):44-47, 1990.

Somani, S.M. and Dube, S.M., Interaction of exercise and physostigmine on ChE activity in RBC and tissues of rat, *Proceedings of the Seventh Medical Chemical Defense Bioscience Review*, 537-544, August, 1989.

Babu, S.R., Garcia, V., Dube, S.N., and Somani, S.M., Interaction of exercise and physostigmine on lactate, pyruvate and hemoglobin of rat, *Proceedings of the Seventh Medical Chemical Defense Bioscience Review*, 531-536, August, 1989.

Dube, S.N., Colliver, J.A., and Somani, S.M., Interactive effects of physostigmine and exercise on cholinesterase activity in RBC and tissues of rat, *Archives Int. Pharmacology* 307:71-82, 1990.

Somani, S.M., Kutty, K.R., and Krishna, G., Eseroline, a metabolite of physostigmine, induces neuronal cell death, *Toxicol. and Appl. Pharmacol.*, 106:28-37, 1990.

Somani, S.M. and Dube, S.N., Effect of acute and trained exercise on the rate of decarbamylation of ChE in RBC and tissues of rat after physostigmine administration, *proceedings of Third International Meeting on Cholinesterases*, American Chemical Society (1991).

Somani, S.M., Babu, S.R., Arneric, S.P., and Dube, S.N., Effect of cholinesterase inhibitor and exercise on cholineacetyltransferase and acetylcholinesterase activities in rat brain regions, *Pharmacol. Biochem. Behavior*, 39:337-343, 1991.

Somani, S.M., Gupta, S.R., Khalique, A., and Unni, L.K., Physiological pharmacodynamic model of physostigmine in the rat, *Drug Metabolism and Disposition*, 19:655-660, 1991.

Somani, S.M. and Dube, S.N., Endurance training changes central and peripheral responses to physostigmine, *Pharmacol. Biochem. Behavior*, 41:773-781 (1992).

Somani, S.N., Dube, S.N., Garcia, V., Buckenmeyer, P., Mandalaywala, R.H., Verhulst, S.J., and Knowlton, R.G., Influence of age on caloric expenditure during exercise, *Int. J. Clin. Pharmacol. Ther. Toxicol.*, 30:1-6, 1992.

Babu, S.R., Buckenmeyer, P., Knowlton, R.G., and Somani, S.M., Effect of physostigmine on plasma lactate and pyruvate in untrained/trained rats, *Pharmacol. Biochem. Behavior*, 41:67-73, 1992.

Dube, S.N., Somani, S.M., and Babu, S.R., Concurrent acute exercise alters central and peripheral responses to physostigmine, *Pharmacol. Biochem. and Behavior*, 46, 1993.

Babu, S.R., Somani, S.M., and Dube, S.M., Effect of physostigmine and exercise on choline acetyltransferase and acetylcholinesterase activities in fast and slow muscles of rat, *Pharmacol. Biochem. Behavior*, 45:713-717, 1993.

Buckenmeyer, P., Babu, S.R., Knowlton, R., and Somani, S.M., Effect of concurrent exercise and physostigmine on lactate and pyruvate in plasma, muscle and brain tissue of rats, *Pharmacol. Biochem. Behavior*, 47:779-788, 1994.

Maggirwar, S.B., Dhanraj, D.N., Somani, S.M., and Ramkumar, V., Adenosine acts as an endogenous activator of the cellular antioxidant defense system. *Biochem. Biophys. Res. Comm.* 201:508-515, 1994.

Somani S.M., Rybak L.P., and Ravi R.P., Effect of exercise training on antioxidant system in brain regions of rat. *Pharmacol. Biochem. Behav.* 50:635-639, 1995.

Somani S.M., Rybak L. P., and Frank S., Effect of acute and trained exercise on antioxidant system in rat heart subcellular fraction. *Pharmacol., Biochem., Behavior* 51:627-634, 1995.

Somani S.M. and Arroyo C.M., Endurance training generates ascorbate free radicals in rat heart. *Ind. J. Physiol. Pharmacol.* 39:323-329, 1995.

Rybak, L.P., Ravi R., and Somani S.M., Mechanism of protection by diethylthiocarbamate against cis-platin ototoxicity: Antioxidant system. *Fund. Appl. Toxicol.* 26:293-300, 1995.

Ravi R., Somani S.M., and Rybak L.P., Mechanism of cisplatin ototoxicity: Antioxidant System. *Pharmacol. & Toxicol.* 76, 386-394, 1995.

Somani S.M., Ravi R., and Rybak L.P., Role of antioxidant enzymes in cisplatin nephrotoxicity and DDTC protection. *Drug and Chemical Toxicity.* 18:151-170, 1995.

Somani, S.M. and Husain, K., Exercise training alters kinetics of antioxidant enzymes in rat tissues. *Biochem. and Molecular Biol. International* 38:587-595, 1996.

Husain, K., Morris, C., Whitworth, C., Trammell, G.L., Rybak, L.P., and Somani, S.M., 4-methyl-thiobenzoic acid protection against cisplatin nephrotoxicity: Antioxidant system. *Fund. Appl. Toxicol.* 32:278-248, 1996.

Husain, K., Dube, S.N., Sugerdran, K., Singh, R., DasGupta, S., and Somani, S.M., Effect of topically applied sulfur mustard on antioxidant enzymes in blood cells and body tissues of rats. *J. Appl. Toxicol.* 16:245-284, 1996.

Somani, S.M., Husain, K., Diaz-Phillips, L., Lanzotti, D.J., Kareti, K.R., and Trammell, G.L., Interaction of exercise and ethanol on antioxidant enzymes in brain regions of rat. *Alcohol.* 13: 603-610, 1996.

Somani, S.M. and Rybak L.P., Comparative effects of exercise training on transcription of antioxidant enzyme and the activity in old rat heart. *Indian J Physiol Pharmacol.* 40:205-212, 1996.

Husain, K. and Somani, S.M., Response of cardiac antioxidant system to chronic alcohol and exercise training in rat. *Alcohol* 14: 301-307, 1997.

Husain, K. and Somani, S.M., Interaction of exercise and ethanol on hepatic and plasma antioxidant system in rat. *Pathophysiology.* 4: 69-74, 1997.

Husain, K. and Somani, S.M., Interaction of exercise training and chronic ethanol ingestion on hepatic and plasma antioxidant system in rat. *J. Appl. Toxicol.* 17: 189-194, 1997.

Rybak, L.P., Husain, K., Evenson, L., Morris, C., Whitworth, C., and Somani, S.M., Protection by 4-methylthiobenzoic acid against cisplatin induced ototoxicity: Antioxidant system. *Antioxidant system. Pharmacology & Toxicology*, 81, 173-179, 1997.

Somani, S.M. and Husain, K., Interaction of exercise training and chronic ethanol ingestion on antioxidant system of rat brain region. *J. Applied Toxicology* 17: 329-336 1997.

Husain, K. and Somani, S.M., Influence of exercise and ethanol on cholinesterase activity and lipid peroxidation in blood and brain region of rat. *Prog. Neuro-Psychopharmacol. Biol. Psychiat.* 21: 659-670, 1997.

Husain, K. and Somani, S.M., Effect of exercise training and chronic ethanol ingestion on cholinesterase activity and lipid peroxidation in blood and brain regions of rat. *Prog Neuro- Psychopharmacol Biol Psychiat*, 22: 411-423,1998.

Dube, S.N., Husain, K., Sugendran, K. Vijayaraghavan,R. And Somani, S.M. Dose response of sulphur mustard : Behavioral and toxic signs in rats. *Ind. J. Physiol.Pharmacol.* 42: 389-394, 1998.

Husain, K and Somani, S.M. Interaction of exercise training and chronic ethanol ingestion on testicular antioxidant system in rat. *J. Appl. Toxicol.* 18: 421-429,1998.

Husain, K., Morris, C, Whitworth, C., Trammel, G.L., Rybak, L.P., and Somani, S.M., Protection by ebselen against cisplatin induced nephrotoxicity: Antioxidant system. *Molecular and Cell Biochemistry*, 178,127-133, 1998.

Somani, S.M., Husain, K., and Schlorff, E.C. Interaction of ethanol and nicotine on antioxidant enzymes and lipid peroxidation in subregions of rat brain. *Res. Commun. Alcohol & Subs. Abuse.* 19: 75-90, 1998.

Schlorff, E.C., Husain, K. And Somani, S.M. Dose and time dependent effects of ethanol on plasma antioxidant system in rat. *Alcohol*, 17: 97-105, 1999.

Rybak, L.P., Husain, K., Whitworth, C., and Somani, S.M. Dose dependent protection by lipoic acid against cisplatin-induced ototoxicity in rats: Antioxidant defense system. *Toxicol. Sci.* 47: 195-202, 1999.

Struble, R.S., Husain, K., and Somani, S.M. Response of the olfactory bulb antioxidant system following diethylkthiocarbamate (DDTC) administration in rat. *J. Appl. Toxicol.* 19: 221-228, 1999.

Schlorff, E.C., Husain, K. and Somani, S.M. Dose and time dependent effects of ethanol on antioxidant system in rat testes. *Alcohol*, 18: 203-214, 1999

Reddy, K.S., Husain, K., Schlorff, E.C., Scott B. and Somani, S.M. Dose Response of Ethanol Ingestion on Antioxidant Enzyme System in Rat Brain Subcellular Fraction, *Neurotoxicology* 20: 977-987, 1999.

Scott, R.B. Reddy, K.S., Husain, K. and Somani, S.M. Time Course Response of Ethanol on Hepatic Antioxidant system and Cytochrome P-450II E1 in Rat. *Environ. Nutr. Int.* 3: 217-231, 1999.

Rybak, L.P., Somani, S. Ototoxicity. Amelioration by protective agents. *Ann. NY Acad. Sci.* 884: 143-151, 1999.

Rybak, L.P., Whitworth, C., Somani, S. Application of antioxidants and other agents to prevent cisplatin ototoxicity. *Laryngoscope* 109: 1740-1744, 1999.

Somani, S.M., Husain, K, Whitworth, C., Trammell, F.L., Malafa, M. and Rybak, L.P. Dose Dependent Protection by Lipoic Acid Against Cisplatin-induced Nephrotoxicity in Rats: Antioxidant Defense System. *Pharmacol. & Toxicol.* 86: 234-241, 2000.

Rybak, L.P., Husain, K., Morris, C., Whitworth, C., Somani, S. Effect of protective agents against cisplatin ototoxicity. *Am. J. Otol.* 21: 513-520, 2000.

Somani, S.M., Husain, K., Asha, T., Helfert, R. Interactive and delayed effects of pyridostigmine and physical stress on biochemical and histological changes in peripheral tissues of mice. *J. Appl. Toxicol.* 20: 327-334, 2000.

Scott, R.B., Reddy, K.S., Husain, K., Schlorff, E.C., Rybak, L.P. and somani, S.M. Dose response of ethanol on antioxidant defense system of liver, lung and kidney in rat. *Pathophysiology*, 7: 25-32, 2000.

Ahuja-Verma, S., Husain, K. Verhulst, S., Espinosa, J.A. and Somani, S.M. Delayed effects of pyridostigmine and exercise training on acetylcholinesterase and muscle tension in mouse lower extremity. *Arch.Toxicol.* 74; 539-546, 2000.

Husain, K., Scott, R.B., Whitworth, C., Rybak, L.P. and Somani, S.M. Dose response of carboplatin-induced hearing loss in rats: Antioxidant defense system. *Hear. Res.* 151: 71-78, 2001.

Jagannathan, R., Husain, K. and Somani, S.M. Interaction of pyridostigmine and physical stress on antioxidant defense system in skeletal muscle of mice. *J. Appl. Toxicol.* 21, 341-348, 2001.

Husain, K., Scott, R.B., Reddy, K.S. Somani, S.M., Chronic ethanol and nicotine interaction on rat tissue antioxidant defense system. *Alcohol*, 25: 89-97, 2001.

Husain, K and Somani, S. M.. Delayed/persistent effect of low dose sarin, pyridostigmine and physical stress in mice, *Indian J. Pharmacology and Physiology*, Submitted 2002

Husain, K., Whitworth, C., Somani, S.M., and Rybak, L.P. Carboplatin-induced oxidative stress in rat cochlea. *Hear. Res.* 158: 14-22, 2001.

Klemens, J.J., Campbell, K.C.M., Meech, R.P., Hughes, L.F., and Somani, S.M. Changes in cochlear anti-oxidant status correlate with amikacin-induced ototoxicity, *Hearing Reserach*, (In Press) 2002.

Jagannathan, R. Husain, K., Reddy, K.S. and Somani, S.M. Pyridostigmine and exercise interaction on cardiac antioxidant defense system in mice. *Environmental and Nutritional Interaction*, (submitted) 2000.