

**Department of
Pharmaceutical Sciences**

Annual Report

2003

Thomas J. Abbruscato - Assistant Professor

Publications:

Lockman, P.R., Koziara, J., Roder, K.R., Paulson, J., **Abbruscato, T.J.**, Mumper, R.J., and Allen, D.D. In vivo and in vitro assessment of baseline BBB parameters in the presence of novel nanoparticles. *Pharm. Res.* Vol. 20, No. 5, 2003.

Abbruscato, T.J., Lopez, S.P., Roder, K.R., and Paulson, J.R. Regulation of BBB Na,K,2C1-Contranporter through phosphorylation during in vitro stroke conditions. *JPET* 2004 (submitted).

Paulson, J., Roder, K., Lopez, S. Thomas, J., Allen, D., **Abbruscato, T.J.** Tobacco smoke constituents and nicotine inhibit brain-to-blood potassium efflux after in vitro and in vivo hypoxia-reoxygenation. 2004 (in prep)

Fakhrul Ahsan - Assistant Professor

Manuscripts Published in Peer-Reviewed Journals

F. Ahsan, J.J. Arnold, T. Yang, E. Schiewbert, E. Meezan and D.J. Pillion (2003) Alkylglycosides and dimethyl- β -cyclodextrin enhance movement of insulin across respiratory epithelial cells by different mechanisms. *European Journal of Pharmaceutical Sciences*, 20: 1551-1557.

F. Ahsan, J.J. Arnold, E. Meezan and D.J. Pillion (2003) Sucrose cocoate, a component of cosmetic preparations, enhances nasal and ocular peptide absorption. *International Journal of Pharmaceutics*. 251, 195-203.

A. Hussain, T. Yang, AA. Zaghoul, **F. Ahsan** (2003) Pulmonary absorption of insulin mediated by tetradecyl- β -D-maltoside and dimethyl- β -cyclodextrin. *Pharmaceutical Research*, 20: 27-34

A. Zoughloul, A.Hussain, and **F. Ahsan**. (2003) Development of a HPLC method for the determination of cyclosporin-A in human and rat blood and plasma using naproxen as an internal standard. *Journal of Pharmaceutical and Biomedical Analysis* 31: 1101-1107.

Poster Presentations

T. Yang, **F. Ahsan**. Transfection of bronchial epithelial cells by cationic polyplex and liposomes. *6th Annual Meeting of the American Society of the Gene Therapy, June 4-8, 2003, Washington DC.*

F. Mustafa, T. Yang, A. Hussain, M. A. Khan, **F. Ahsan**. Alkylmaltosides as absorption enhancers of nasally administered low molecular weight heparin, enoxaparin, *Winter Symposium & 11th International Symposium on Recent Advances in Drug Delivery Systems, March 3-6, 2003, Salt Lake City, Utah.*

F. Mustafa, T. Yang, **F. Ahsan**. Time-Dependent Effects of Alkylmaltosides on Nasal Absorption of Enoxaparin, a Low Molecular Weight Heparin *AAPS Annual Meeting, Oct 26-30, 2003, Salt Lake City, Utah.*

T. Yang, A. Hussain, F. Mustafa, **F. Ahsan**. Nasal absorption of low molecular weight heparin mediated by cyclodextrins. *AAPS Annual Meeting, Oct 26-30, 2003, Salt Lake City, Utah.*

T. Yang, F. Mustafa, A. Hussain, **F. Ahsan**. Alkylmaltosides in enhancing permeability across Caco-2 cells. *AAPS Annual Meeting, Oct 26-30, 2003, Salt Lake City, Utah.*

A. Hussain, F. Mustafa, T. Yang, **F. Ahsan**. Additive effect of dodecyl- β -maltoside and chitosan in enhancing colonic absorption of insulin in rats. *AAPS Annual Meeting, Oct 26-30, 2003, Salt Lake City, Utah.*

David D. Allen - Associate Professor, Associate Dean for Curricular Affairs

Publications:

Lockman P.R., McAfee J.H., **Allen D.D.** (2004) Physiologic substrate specificity for cation transporters at the blood-brain barrier. Submitted.

Cui Z., Hsu C.H., Lockman P.R., Atwood C.S., **Allen D.D.**, Mumper R.J. (2004) Novel d-penicillamine carrying nanoparticles for potential treatment of β -amyloid accumulation. Submitted.

Lockman P.R., Oyewumi M., Koziara J., Roder K.E., Mumper R.J., **Allen D.D.** (2003) Brain uptake of thiamine-coated nanoparticles. *J Cont Rel.* 93: 271-282.

Koziara J.M., Lockman P.R., **Allen D.D.** and Mumper R.J. (2003) In situ blood-brain barrier transport of nanoparticles. *Pharmaceutical Research.* 20: 1772-1778.

Allen D.D. and Lockman P.R. Invited review. The blood-brain barrier choline transporter as a brain drug delivery vector. *Life Sciences.* 73: 1609-1615. 2003.

Lockman P.R., Mumper R.J. and **Allen D.D.** Evaluation of blood-brain barrier thiamine efflux using the in situ rat brain perfusion method. *Journal of Neurochemistry.* 86: 637-34. 2003.

Lockman P.R., Koziara J., Paulson J., Roder K.E., Abbruscato T.J., Mumper R.J. and **Allen D.D.** In vivo and in vitro assessment of baseline blood-brain barrier parameters in the presence of novel nanoparticles. *Pharmaceutical Research.* 20: 705-713. 2003.

Crossgrove J.S., **Allen D.D.**, Bukaveckas B.L., Rhineheimer S.S. and Yokel R.A. Manganese distribution across the blood-brain barrier. I. Evidence for carrier-mediated influx of manganese citrate as well as manganese and manganese transferring. *Neurotoxicology.* 24: 3-13. 2003.

Allen D.D., Lockman P.R., Roder K.E., Dwoskin L.P., Crooks P.A. Active transport of high affinity choline and nicotine analogs into the central nervous system by the blood-brain barrier choline transporter. *Journal of Pharmacology and Experimental Therapeutics.* 304:1268-1274. 2003.

Ulrich Bickel - Professor

Drug delivery of protein drugs and antisense oligonucleotides

Transport mechanisms at the blood-brain barrier

Inflammatory reactions at the blood-brain barrier as therapeutic targets in neuroinflammatory disease (Multiple Sclerosis) and brain ischemia.

Recent Funding:

2003-2006 "Targeting the Blood-Brain Barrier in Neuroinflammation". National Institute of Neurological Disorders and Stroke

Carolyn L. Bouma - Assistant Professor

Grant submitted:

"Phosphotransferase system in Fusobacterium," NIH-R21, Principal Investigator: Carolyn L. Bouma, Ph.D., Total costs \$321,000.

Jayarama Bhat Gunaje - Associate Professor

Publications

T. Koch, L.-O. Brandenburg, S. Schulz, Y. Liang, **J. Klein** and V. Höllt (2003) ARF-dependent phospholipase D2 activation is required for agonist-induced μ -opioid receptor endocytosis. *J. Biol. Chem.* 278, 9979-9983.

M.L. Buchholzer and **J. Klein** (2003) Nitroergic modulation of hippocampal acetylcholine release is independent of endothelial NO synthase activity. *Neurochem. Res.* 28, 587-591.

M. Hilgert, J. Hartmann, H. Jeltsch, C. Kelche, J.-C. Cassel, **J. Klein** and K. Löffelholz (2003) Modulation of hippocampal acetylcholine release after 192IgG-saporin lesions and neuronal grafting. *Neurochem. Res.* 28, 467-472.

U. Korth, H. Krieter, C. Denz, C. Janke, K. Ellinger, T. Bertsch, C. Henn and **J. Klein** (2003) Intestinal ischemia during cardiac arrest and resuscitation: comparative analysis of extracellular metabolites by microdialysis. *Resuscitation* 58, 209-217.

J. Klein, M. Hilgert, O. Weichel, J. Rupp, S.S. Chatterjee and H. Nawrath (2003) NMDA-induced hippocampal membrane breakdown and its inhibition by bilobalide: role of chloride fluxes. *Pharmacopsychiatry* 36 Suppl. 1, S78-S83.

B. Schatter, I. Walev and **J. Klein** (2003) Mitogenic effects of phospholipase D and phosphatidic acid in transiently permeabilized astrocytes: effects of ethanol. *J. Neurochem.* 87, 95-100.

Suzanne Lindsey - Assistant Professor

PATENTS:

"Mammalian Migration Inducing Gene and Methods for Detection and Inhibition of migrating tumor cells" – PCT filing: WO 03/066808 A2, published August 14, 2003. (Will split into three patents)

Paper accepted in 2003 for publication:

Crouch, S., Spidel, C. S. and **Lindsey, J. S.** (2004) HGF and ligation of $\alpha\beta 5$ integrin induce a novel, cancer cell-specific gene expression required for cell scattering. *Experimental Cell Research* **292**, 274-287.

Meeting presentation:

Lindsey, J.S. V.D. Winn, S.J. Crouch, C.M. Spidel, J.J. Kim, A. Jasinska, A.T. Fazleabas and S.J. Fisher. Regulation and expression of a novel, invasion-related gene, Mig-7, in early placenta. Platform presentation, Society for the Study of Reproduction, Cincinnati, Ohio. 2003.

Paul R. Lockman - Research Instructor

Publications:

Lockman PR, McAfee JH, Allen DD. (2003) Physiologic substrate specificity for cation transporters at the blood-brain barrier. *Neurochem Res*. Submitted

Cui Z, Hsu CH, **Lockman PR**, Atwood CS, Allen DD, Mumper RJ. (2003) Novel d-penicillamine carrying nanoparticles for potential treatment of β -amyloid accumulation. *Eur J Bio Pharm*. Submitted.

Lockman PR, Mumper RJ, Allen DD. (2003) Evaluation of blood-brain barrier thiamine efflux using the in situ rat brain perfusion method. *J Neurochem*. 86 (3) 637-44.

Allen DD, **Lockman PR**, Roder KE, Dwoskin LP, Crooks PA. (2003) Active transport of high affinity choline and nicotine analogs into the central nervous system by the blood-brain barrier choline transporter. *J Pharm Exp Ther*. 304 (3) 1268-1274.

Allen DD, **Lockman PR**. Invited review. (2003) The blood-brain barrier choline transporter as a brain drug delivery vector. *Life Sciences*. 73 (13) 1609-15.

Lockman PR (2003) Targeted brain delivery of novel nanoparticles via the blood-brain barrier thiamine transporter. Dissertation. Texas Tech University Health Sciences Center, School of Pharmacy, Department of Pharmaceutical Sciences.

Lockman PR, Koziara J, Roder KE, Paulson J, Abbruscato TJ, Mumper RJ, Allen DD. (2003) In vivo and in vitro assessment of baseline blood-brain barrier parameters in the presence of novel nanoparticles. *Pharm Res* 20 (5) 705-713.

Lockman PR, Oyeumi M, Koziara J, Roder KE, Mumper RJ, Allen DD. (2003) Brain uptake of thiamine coated nanoparticles. *J Cont Rel*. 93(3) 271-82.

Koziara J, **Lockman PR**, Allen DD, Mumper RJ. (2003) *In situ* blood-brain barrier transport of nanoparticles. *Pharm Res*. 20 (11) 1772-78.

Grant Monies

Philip Morris Foundation (2003 renewable for 2004). Post-doctoral grant: Brain uptake and neurotransmitter effects of alternative smoking cessation therapeutics.
Award amount \$86,400

SfN Chapters/Eli Lilly Graduate Student Travel Award (2003).
Award Amount \$750

Awards and Honors

Houston Endowment; Texas Tech University HSC; School of Pharmacy (2003)
Nutramax Research Achievement Award (Pharmaceutics) (2003)

Reza Mehvar - Professor

Publications

Vuppugalla R, Shah RB, Chimalakonda AP, Fisher CW, and **Mehvar R**, Microsomal Cytochrome P450 Levels and Activities of Isolated Rat Livers Perfused with Albumin. *Pharm. Res.*, 20:81-88 (2003).

Chimalakonda AP and **Mehvar R**, Dextran-Methylprednisolone Succinate as a Prodrug of Methylprednisolone: Local Immunosuppressive Effects in Liver after Systemic Administration to Rats. *Pharm. Res.*, 20:198-204 (2003).

Chimalakonda AP and **Mehvar R**, Attenuation of Kupffer Cell Activation in Cold-Preserved Livers After Pretreatment of Rats with Methylprednisolone or Its Macromolecular Prodrug. *Pharm. Res.*, 20: 1001-1108 (2003).

Mehvar R, Recent Trends in the Use of Polysaccharides for Improved Delivery of Therapeutic Agents: Pharmacokinetic and Pharmacodynamic Perspectives (Invited Review Article), *Curr. Pharm. Biotechnol.*, 4: 283-302 (2003)

Brocks DR and **Mehvar R**, Stereoselectivity in the pharmacodynamics and pharmacokinetics of the chiral antimalarial drugs. *Clin. Pharmacokinet.*, 42: 1359-1382 (2003).

Presentations and Abstracts

Vuppugalla R and **Mehvar R**, Effects of Nitric Oxide on Cytochrome P450-Mediated Drug Metabolism in Isolated Perfused Rat Livers. Presented at the Eighteenth Annual Meeting of the American Association of Pharmaceutical Scientists, Salt Lake City, Utah, October 26-30, 2003.

Chimalakonda AP and **Mehvar R**, Disposition of Indocyanine Green in Cold-Preserved Rat Livers. Presented at the Eighteenth Annual Meeting of the American Association of Pharmaceutical Scientists, Salt Lake City, Utah, October 26-30, 2003.

Grants

Effects of Targeted Delivery of Methylprednisolone on Hepatic Preservation-Reperfusion Injury; \$62,000 for second year; American Heart Association (Texas Affiliate); Role: Principal Investigator.

Pediatric Pharmacology Research & Development Center; Texas Tech School of Pharmacy Center of Research Excellence; Role: Investigator (Program Director: Richard Leff, Pharm.D.).

Majid Moridani - Assistant Professor

Publications:

Moridani, Siraki, O'Brien. Quantitative structure toxicity relationships for phenols in isolated rat hepatocytes. *Chem.-Biol. Interac.*, 2003;**145(2)**:213-223.

Moridani, Verjee, Allen. Analytical evaluation of hemoglobin A1c on dual kit assay Bio-Rad Variant II: an automated HPLC hemoglobin analyzer for the management of diabetic patients. *Clin. Biochem.*, 2003;**36(4)**:317-20.

Moridani, Bromberg. Lipase and pancreatic amylase versus total amylase as biomarkers of pancreatitis: an analytical investigation. *Clin. Biochem.*, 2003;**36(1)**:31-33.

Moridani, Pourahmad, Bui, Siraki, O'Brien. Flavonoids iron complexes as cytoprotective superoxide scavengers: superoxide dismutase mimics. *Free Radic. Biol. Med.*, 2003, **34(2)**:243-253.

Moridani, Cheon, Khan, O'Brien. Metabolic activation of 3-hydroxyanisole by isolated rat hepatocytes. *Chem.-Biol. Interac.*,2003,**142(3)**:317-333.

Quentin Smith – Chair & Professor

Honors and Awards:

2003 Chair, Organizing Committee, Vth International Conference on Cerebral Vascular Biology, Amarillo, Texas
2003 Chair, July 18, 2003 Meeting of the CDIN/BDCN-23 Special Emphasis Panel, Center for Scientific Review, NIH
2003 Graduate Student Mentor Award, Texas Tech School of Pharmacy
2003 Best Poster Presentation, Pharmaceutical Sciences Faculty Award, Texas Tech School of Pharmacy
2003 Most Influential Professor, Texas Tech School of Pharmacy

Grants Funded:

National Institutes of Health, 5R37NS044687-21 “Osmotic Opening of the Blood-Brain Barrier to Antitumor Agents” Co-PI -Q.R. Smith (PI of Texas Tech Subcontract), (4/02-2/05) \$128,214.

National Institutes of Health, 1R13NS046495-01 “Cerebral Vascular Biology 2003 Conference” PI -Q.R. Smith (6/03-6/04) \$10,000.

Pfizer, Inc., Role of blood constituents in blood-brain barrier penetration of selected drugs. P.I. – Q.R. Smith, (12/02-12/04) \$126,247.

Pfizer, Inc., Brain uptake of selected drugs by *in situ* perfusion: Contribution of L-System transport. P.I. – Q.R. Smith (5/02-5/04) \$28,147.

Scientific Service:

2003 Member, NIH CDIN (previously BDCN-3) Study Section, NIH
2003 Board Member, American Heart Association (AHA), Panhandle Division
2003 Editorial Board Member, Journal of Pharmacology and Experimental Therapeutics

Invited Lectures:

2003 - Invited Speaker, Department of Pharmacology, Texas Tech University Health Sciences Center, Lubbock, Texas, “Overcoming the Blood-Brain Barrier.”

2003 - Invited Speaker, Department of Chemistry, Texas Tech University, Lubbock Texas, “Designing Drugs with Access to Brain: The Problem of the Blood-Brain Barrier.”

Publications (Peer Reviewed Papers):

Smith, Q.R., and Allen, D.D.: In situ brain perfusion technique. *Meth. Mol. Med.*, 10: 209-219, 2003.

Smith, Q.R.: A review of blood-brain barrier transport techniques. *Meth. Mol. Med.*, 10: 191-208, 2003.

Abstracts at National/International Scientific Meetings:

Smith, Q.R., Mandula, H., Parepally, J., Lockman, P., and Allen, D.D.: Influence of cerebral perfusion fluid flow rate on blood-brain barrier transport as assessed using the in situ brain perfusion technique. *Vth International Cerebral Vascular Biology Conference*, Amarillo, Texas, June 2003.

Parepally, J., Mandula, H., and **Smith, Q.R.**: Role of p-glycoprotein on the restricted brain uptake of melphalan. *Annual Meeting of the American Association of Pharmaceutical Scientists*, Salt Lake City, Utah, October 2003.

Mandula, H., Parepally, J., Neuwelt, E., and **Smith, Q.R.**: Blood-brain barrier permeability and transport of the antioxidant, N-acetylcysteine. *Annual Meeting of the American Association of Pharmaceutical Scientists*, Salt Lake City, Utah, October 2003.

Smith, Q.R., Parepally, J.R., Mandula, H., Feng, R., and Liu, X.: Brain uptake of the high affinity organic anion transporter substrate, naproxen. *Annual Meeting of the American Association of Pharmaceutical Scientists*, Salt Lake City, Utah, October 2003.

Parepally, J., Mandula, H., Pagel, M.A., Neuwelt, N., and **Smith, Q.R.**: Brain delivery of chemoprotective agents via intra-arterial infusion. *Society for Neuroscience*, New Orleans, Nov 2003.

Smith, Q.R., Stoll, J., Mandula, H., Parepally, J., Neuwelt, E., and Greig, N.: Rapid brain uptake of tertiary butyl chlorambucil in vivo due to nonrestrictive plasma protein binding. *Society for Neuroscience*, New Orleans, Nov 2003.

Service to University and Profession

Chair, Department of Pharmaceutical Sciences, Texas Tech School of Pharmacy

Executive Committee, Texas Tech School of Pharmacy

Academic Program Management Committee, Texas Tech School of Pharmacy

Graduate Council, Graduate School of Biomedical Sciences

Kalkunte S. Srivenugopal - Associate Professor

Publications:

Srivenugopal KS and Ali-Osman F. Genomic instability in brain tumors and its therapeutic relevance, In: Brain tumors (Ed. Ali-Osman, F.), Humana Press, 2003 (In Press).

Konduri S. **Srivenugopal KS**, Yamanandra J, and Rao JS. CpG island hypermethylation is responsible for the down regulation of TFPI-2 (Tissue Factor Pathway Inhibitor-2) expression in human glioma cell lines, *Oncogene* (In Press).

James Stoll - Associate Professor

Grants:

“*Estrogen and High-Affinity Choline Transport*”, 1 RO3 AG21735-01, National Institute on Aging, Role: PI, 9/02-8/03, (no cost extension until 8/04) \$74,000

Pending:

“*Characterization of the ubiquitous choline transporter*”, National Institute of General Medical Sciences, NIH, Role: PI, 5/04-4/06, \$220,800, Priority Score: 152, awaiting funding decision.

“*Estrogen and High-Affinity Choline Uptake*”, National Institute on Aging, Role: PI, 7/04-6/09, \$1,452,702, in review

Presentations:

Stoll J, Hoelting C. (2003) Is the low-affinity choline transporter a member of the organic cation transporter family: expression of OCT genes at the blood-brain barrier. Vth International Conference, Cerebral Vascular Biology 2003, (abstract)

Hoelting C, **Stoll J**. (2003) Isolation and functional characterization of low affinity choline transporter in MC-IX-C neuroblastoma cells. 6th Annual Pharmacy Student Research Conference Western Region, Abstr. IV.29

Stoll J, Hoelting C. (2003) The low affinity choline transporter is a member of the organic cation transporter family. 2003 Experimental Biology Annual Meeting, Abstr. 331.21

Honors and Awards:

2003 Teacher of the Year, P1 Class, Texas Tech School of Pharmacy

Thomas Thekkumkara, Ph.D. - Associate Dean for Research

Publications:

Thekkumkara, T.J. and Linas, S.L. Evidence for involvement of 3' untranslated region in determining angiotensin II receptor coupling specificity to G-protein. *Biochem. J.* 370: 631-639, 2003.

Cornelis J. Van der Schyf - Associate Professor & Graduate Program Advisor

Peer reviewed papers published in 2003:

Geldenhuis, W.J., **Van der Schyf, C.J.**, and Malan, S.F. Screening of novel pentacyclo-undecylamines for neuroprotective activity. *European Journal of Pharmacology*, 2003, 458, 73-79.

Ooms, F., Frédérick, R., Durant, F., Petzer, J.P., Castagnoli, N., Jr., **Van der Schyf, C.J.**, and Wouters, J. Rational Approaches Towards Reversible Inhibition of Type B Monoamine Oxidase. Design and Evaluation of

a Novel 5H-indeno[1,2-c]pyridazin-5-one Derivative. *Bioorganic and Medicinal Chemistry Letters*, 2003, 13, 69-73.

Petzer, J.P., Steyn, S., Castagnoli, K.P., Chen, J.-F., Schwarzschild, M.A., **Van der Schyf, C.J.**, and Castagnoli, N., Jr. Inhibition of monoamine oxidase B by selective adenosine A_{2A} receptor antagonists. *Bioorganic and Medicinal Chemistry*, 2003, 11, 1299-1310.

Castagnoli, K., Petzer, J.P., Steyn, S.J., **Van der Schyf, C.J.** and Castagnoli, N., Jr. Inhibition of human MAO-A and MAO-B by a compound isolated from flue-cured tobacco leaves and its neuroprotective properties in the MPTP mouse model of neurodegeneration. *Inflammopharmacology*, 2003, 11, 183-188.

Malan, S.F., Dyason, K., Wagenaar, B., Van der Walt, J.J., and **Van der Schyf, C.J.** The structure and ion channel activity of 6-benzylamino-3-hydroxyhexacyclo[6.5.0.0^{3,7}.0^{4,12}.0^{5,10}.0^{9,13}]tridecane. *Archiv der Pharmazie: Pharmaceutical and Medicinal Chemistry*, 2003, 336, 127-133.

Castagnoli, N. Jr., Petzer, J.P., Steyn, S., Castagnoli, K., Chen, J.-F., Schwarzschild, M.A., and **Van der Schyf, C.J.** Monoamine Oxidase B Inhibition and Neuroprotection: Studies on Selective Adenosine A_{2A} Receptor Antagonists. *Neurology*, 2003, 61 (Suppl. 6), S62-S68.

Presentations in 2003:

Correll, L., Massicotte, C., **Van der Schyf, C.J.** and Ehrich, M. *In Situ* Effects of Organophosphate (OP) Compound Exposure on ATP Production in Human Neuroblastoma Cells. Proceedings: 42nd Annual Meeting of the Society of Toxicology, Salt Lake City, UT, March 9-13, 2003. Referenced in: *Toxicol. Sci. Suppl: The Toxicologist*, 2003, 72, 1299 Suppl. S.

Geldenhuis, W.J., Steelman, K., Malan, S.F., Bloomquist J.R. and **Van der Schyf, C.J.** Pharmacological Evaluation of Pentacyclo-undecylamine Derivatives as Novel Uncompetitive N-methyl-D-aspartate (NMDA) Receptor Antagonists. Proceedings: Second Annual Research Days Event, Texas Tech University Health Sciences Center School of Pharmacy, Amarillo, Texas, June 2-3, 2003. Abstract No. 23.

Robbertse, G., Bergh, J.J., Mienie, L.J., and **Van der Schyf, C.J.** The haloperidol metabolite, *p*-chlorobenzoic acid, reduces ubiquinone-10 concentrations and affects the urinary organic acid profile in baboon. Proceedings: Second Annual Research Days Event, Texas Tech University Health Sciences Center School of Pharmacy, Amarillo, Texas, June 2-3, 2003. Abstract No. 33.

Geldenhuis WJ, Steelman K, Malan SF, Bloomquist JR. **Van der Schyf CJ.** Pharmacological evaluation of pentacyclo-undecane derivatives as novel noncompetitive N-methyl-D-aspartate (NMDA) receptor antagonist. Interaction of trishomocubane analogs of amantadine with the dopamine transporter. Proceedings: Society for Neuroscience, 33rd Annual Meeting, New Orleans, LA, November 8-12, 2003. Abstract No. 892.15 2003 *Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2002. Online.

Grants funded:

Van der Schyf, C.J., PI

Title: "Drugs with a Dual Mechanism of Action for the Prevention and/or Treatment of Alzheimer's Disease"

Funding source: Institute for Healthy Aging. Amount: \$49,590

Michael Veronin – Assistant Professor

Publications:

Seifert CF, **Veronin MA**, Patry RA, et. al. Telepharmacy from classroom to practice: a pilot study. *Pharmacother Abstr.* 2003; 23 (10): 1336.

Veronin MA. Internet Pharmacies: Prescription for health or harm? *Panhandle Health.* 2003; 14 (1): 41-42.

Veronin MA. URL 404 File Not Found: dealing with the transient nature of the Web. *J Audiov Media Med.* 2003; 26 (4): 153-155.

Seifert CF, **Veronin MA**, Ontai S, et al. Training of a Telepharmacist: Addressing the Needs of Rural West Texas. *Am J Pharm Ed* (In press).

Ming-Hai Wang - Professor and Amarillo Community Endowed Chair

GRANTS:

Principle Investigator: Ming-Hai Wang

RO1 AI43516.

NIAID, NIH

Title: The RON Receptor in Regulation of Macrophage iNOS Expression

Director Costs: \$851,775, 00. Total Costs: \$1,320,083.00

Sept. 1, 1998 to Aug. 31, 2004. (**Funded**)

Principle Investigator: Ming-Hai Wang

RO1 CA91980

NCI, NIH

Title: The RON Receptor in the Invasive Growth of Colon Cancer

Director Cost: \$1,040,000; Total Cost: \$1,337,050

April 1, 2002, to March 31, 2006 (**Funded**)

SELECTED PUBLICATIONS

Zhou, Y.-Q., Wang, D., Jiang, Y.-H., and Chen, Y.-Q., and **Wang, M.H.** Altered expression of the RON receptor tyrosine kinase in primary colorectal carcinomas: generation of different splicing variants and their biological significance. *Oncogene* 2003, 22:186-197.

Wang, M.-H., Zhou, Y.-Q., and Chen, Y.-Q. Macrophage stimulating protein and RON receptor tyrosine kinase: potential regulators for macrophage inflammatory activities. *Scan J. Immunol.* 2002, 56: 545-553 (review article).

Wang, M.-H., Wang, D., Shen, J.-F., and Chen, Y.-Q. Oncogenic and metastatic potentials of the RON receptor tyrosine kinase. *Carcinogenesis.* 2003, 23: 1291-1300 (review article).

Wang, D., Chen, U.-Q., and **Wang, M.H.** Collaborative activities of macrophage stimulating protein and transforming growth factor- β 1 in induction of epithelial to mesenchymal transition: role of the RON receptor tyrosine kinase. *Oncogene* (in press).

Wang, M.-H. Macrophage stimulating protein and RON receptor tyrosine kinase: potential regulators of macrophage inflammatory activities and epithelial cell tumorigenesis. In *Progress in Protein Research*. Nova Science Publishers, Inc. Hauppauge, New York (in press)

Jon A. Weidanz - Assistant Professor

Publications:

Weidanz, J.A., Card, K.F., Wong, H.C., and Sherman, L.A. Binding and kinetic characterization of a TCR isolated from a high avidity T cell. (In preparation)

Wittman, V., Lee, K., and **Weidanz, J.A.** Retargeting Human T cell specificity to self-antigen using a high affinity TCR. (In preparation)

Weidanz, J.A., Wittman, V., and Thekkumkara, T.J. Angiotensin II mediates inhibition of apoptosis in T lymphocytes through the angiotensin type 1 receptor. (In preparation)

Weidanz, J.A., Wittman, V., and Thekkumkara, T.J. T-cell receptor mediated upregulation of angiotensin type 1 receptor in T lymphocytes: A physiological paradigm. (In preparation).

Bi-Botti Celestin Youan - Assistant Professor

Scholarship, Research and Development

Intramural grants

Co-PI= Youan, PI= Neels Van der Schyf, Center for Research Excellence. Submitted by August 15th 2003 (Not funded).

Extramural grants

PI= Youan. Development of Microparticulate System for Chronotherapy of Thromboembolic Disorders. Source: AHA Beginning Grant-in-Aid (# 0365159Y) submitted in January 2003. Amount: \$124,000 (Not funded)

PI= Youan. Heparin Containing Microparticles for Pulmonary Delivery. Source: *NIH/NIGMS R15* submitted in January 2003. Amount: \$205,292. (Score: 215, not funded)

PI= Youan. "Molecular Pharmaceutics of Heparin Containing Microparticles". Source: *American Association of College of Pharmacy (AACP)*. Amount: \$10,000 (Not reviewed due to mishandling by AACP)

PI = Youan. "Development of Heparin Loaded Microparticles for Oral and Chronotherapeutic Delivery". Source: *Texas Higher Education Coordinating Board's Advanced Research Program / Advanced Technology Program (ARP/ATP)*. Proposal# 010674-0042-2003. Submitted in August 2003. Amount: \$220,000 (Score: <27.5% in Biomedicine, not funded).

PI= Youan. "Heparin Containing Microparticle for Pulmonary Delivery". Source: *NIH/NIGMS R15*. Resubmitted in September 2003. Amount: \$205,292. (Pending)

Peer-reviewed scientific research papers

Youan, BBC (2004). Microencapsulation of superoxide dismutase into biodegradable microparticles by spray-drying. *Drug Delivery*, **11**:1-6.

Youan, BBC, Hussain A and Nguyen, NT. (2003) Evaluation of sucrose esters as surfactant in the microencapsulation of proteins by solvent evaporation method. *AAPS PharmSci*, 5(2) Article 22 (<http://www.pharmsci.org>).

Youan, BBC (2003) Microencapsulation of superoxide dismutase into poly(epsilon-caprolactone) microparticles by reverse micelle solvent evaporation. *Drug Delivery*, 10: 283-288.

Youan, BBC, Moltekar, N, Khan, M, Nguyen, NT (2003), Characterization of genistein containing microparticle intended to enhance its dissolution rate. *2003 AAPS Annual Meeting, Salt Lake City, Utah, October 26-30th*. *AAPS PharmSci*, Abstract T2044.

Invited presentations at symposia, conferences, scientific meetings

Emerging Trends in Micronization and Particle Size Reduction. International Conference organized by Barnett International Educational Services Division. Brussels, Belgium, September 29-30th, 2003. "Imaging Microstructure Imaging: A Look at the History, Present and Future".

Youan, BBC and Nguyen, NT (2003), Microencapsulation of heparin for potential chronotherapeutic delivery against thromboembolic disorder. *2003 AAPS Annual Meeting, Salt Lake City, Utah, October 26-30th*. *AAPS PharmSci*, Abstract W4208

Youan, BBC and Nguyen, NT (2003), Diltiazem-loaded microparticles for potential chronotherapy of hypertension. *2003 AAPS Annual Meeting Salt Lake City, Utah, October 26-30th*. *AAPS PharmSci*, Abstract T3221.

Poster or oral presentations at scientific meetings

Contribution to school or department seminar program in 2003

Department of Pharmaceutical Sciences. "*Imaging Microstructure Imaging: A Look at the History, Present and Future*". Date: Monday, 20th October 2003 at 11:00 AM.

Services

Faculty Committee

I am also an active member of the **Faculty Development Committee of the School** of Pharmacy and Member of the Pharmaceutical Sciences Graduate program and the graduate program, Lubbock. For the Faculty development committee, I have contributed to find that our Faculty could participate in the

Upcoming Grant Writing Seminars in June 2004 and I am also planning the Faculty transportation strategy to Lubbock for the graduation ceremony.

Professional services

Association of formulation chemists (AFC),
American Association of Pharmaceutical Scientist (AAPS)
Council for Undergraduate Research (CUR)

Controlled Release Society (CRS)
American Association of College of Pharmacy (AACCP).
Center of Biotechnology, TTU, Lubbock
Texas Nanotechnology Initiative

Elected **Secretary** of AAPS Southern Regional Discussion Group (SRDG)
Initiator of AAPS Sunrise School entitled: Chronopharmaceutic Drug Formulation to be held in Baltimore, MD,
November 7-11, 2004.

Elected in the **editorial board** of the *Journal named: "Environmental Pollution"*.

Reviewers

AAPS PharmSci Tech
Drug Development and Industrial Pharmacy.
Environmental Pollution.
2003 AAPS Annual Meeting Posters (Salt Lake City)
TTUHSC Internal Seed Grants
Participation in outcome assessment exam planning and questions design.

Community service:

Dr. Youan was volunteers at BSA Hospice and Big Brothers in 2003.

Consultant

Dr Youan has been consulted by Barnett International Inc. and by colleagues in Third World Countries on Global Health Issues (e.g. Zoro Bi, PhD in agronomy, Ivory Coast and Tohour Gakouri, MBA, Chicago, IL) throughout this year 2003.