

CURRICULUM VITAE

Richard A. Sams

A. PERSONAL INFORMATION

CURRENT TITLE

Laboratory Director

LGC Science, Inc. *EMPLOYMENT*

ADDRESS

LGC Science, Inc.

1745 Alysheba Way

Suite 160

Lexington, KY 40509

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COUNTRY OF CITIZENSHIP - USA

B. EDUCATION

Bachelor of Science Degree awarded June 1969 by the College of Pharmacy at The Ohio State University, Columbus, Ohio 43210

Doctor of Philosophy Degree awarded March 1975 by the Graduate School of The Ohio State University, Columbus, Ohio 43210; major professor: Louis Malspeis; area of specialization: pharmaceuticals and pharmacokinetics; dissertation title: "Pharmacokinetics of naloxone in the dog".

C. WORK EXPERIENCE

<i>DATE</i>	<i>POSITION OR TITLE</i>	<i>INSTITUTION/COMPANY</i>
2010-present	Laboratory Director	LGC Science, Inc.
2006-2010	Professor	Department of Physiological Sciences, College of Veterinary Medicine, University of Florida
2006-2010	Program Director	Florida Racing Laboratory, University of Florida, College of Veterinary Medicine
2005-2006	Technical Director	Analytical Toxicology Laboratory, Ohio Department of Agriculture

1990-2006	Professor	Department of Veterinary Clinical Sciences, College of Veterinary Medicine, OSU
1990-2006	Professor	Division of Pharmaceutics, College of Pharmacy, OSU
1982-1990	Associate Professor	Department of Veterinary Clinical Sciences, College of Veterinary Medicine, OSU
1979-2005	Laboratory Director	Analytical Toxicology Laboratory, OSU
1976-1982	Assistant Professor	Department of Veterinary Clinical Sciences, College of Veterinary Medicine, OSU
1974 -1975	Senior Scientist	Ciba-Geigy Corp., Suffern, NY

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Academy of Veterinary Pharmacology and Therapeutics
 Association of Official Racing Chemists – professional member
 International Association of Forensic Toxicologists

COURSES TAUGHT

VEM5289 Large Animal Clinical Pharmacology – Course Coordinator
 VEM5288 Small Animal Clinical Pharmacology – Course Coordinator
 VEM5171 Veterinary Pharmacology – Lecturer
 VEM5286 Veterinary Clinical Pharmacology-Lecturer

DISSERTATIONS/THESES DIRECTED

Major Professor/Dissertation Advisor for Marc Rumpler (completed 2011)
 Major Professor/Dissertation Advisor for Jhoana Mendoza (completed 2009)
 Major Professor/Dissertation Advisor for Dr. Timothy Dyke (1995)
 Major Professor/Dissertation Advisor for Meir Tzou (1994)
 Major Professor/Thesis Advisor for Dr. James M. Donecker (1984)
 Major Professor/Thesis Advisor for Ellen L. Harrington (1984)
 Major Professor/Thesis Advisor for Dr. Walter W. Ruoff, Jr. (1981)

ADMINISTRATIVE/SCHOLARLY ACTIVITIES

Member, Veterinary Medicine Advisory Committee, United States Food and Drug Administration, 2004-2007
 Chairman, Veterinary Pharmacology Subcommittee to the ARCI Drug Testing Standards and Practices Committee, 2005-present
 Technical Consultant, Racing Medication and Testing Consortium, 2001-present

Chairman, Testing Integrity Program, Inc., 2001-2010
Member, Veterinary Pharmacology Subcommittee to the ARCI Drug Testing Standards and Practices Committee, 1995-present
Member, Testing Integrity Program, Inc., 1994-2010
Member, Editorial Board, *Journal of Veterinary Pharmacology and Therapeutics*, 1986 - present
Member, Editorial Board, *American Journal of Veterinary Research*, 1987 - 1989
Grant Reviewer, Racing Medication and Testing Consortium, Inc – 2004, 2005, 2006
Grant Reviewer, US Food and Drug Administration, 1989, 1993, 1994
Grant Reviewer, US Department of Agriculture, 1993
Grant Reviewer, Texas Equine Research Fund, 1993
Grant Reviewer, National Institutes on Drug Abuse, 1989
Program Committee Member, ARCI Quality Assurance Program, 1988 - 1992

UNIVERSITY ACTIVITIES:

Member, Institutional Animal Care and Use Committee, University of Florida, 2007-2010
Chairman, Graduate Studies Committee, Department of Veterinary Clinical Sciences, OSU, 1983 - 1993; 1997-2004
Elected Member, University Research and Graduate Council, OSU, 1992 - 1996
Member, Research Committee, University Research and Graduate Council, OSU, 1994 - 1996
Member, Curriculum Committee, University Research and Graduate Council, OSU, 1992 - 1994
Member, Finley Center Management Committee, OSU, 1990 - 2002
Director, OSU Analytical Toxicology Laboratory, 1979 - 2005
Member, College Promotion and Tenure Committee, OSU, 1995-1998
Member, Department Promotion and Tenure Committee, OSU, 1998-2003

REFEREED PUBLICATIONS

1. R.H. Reuning, R.A. Sams, and R.E. Notari (1973) Role of pharmacokinetics in drug dosage adjustment I. Pharmacologic effect kinetics and apparent volume of distribution of digoxin. *Journal of Clinical Pharmacology* **12**, 127-141.
2. R.A. Sams and L. Malspeis (1976) Determination of naloxone and naltrexone as perfluoroalkyl ester derivatives by electron-capture GLC. *Journal of Chromatography* **125**, 409-420.
3. R.A. Sams and J.D. Baggot (1977) Bioavailability, disposition kinetics and dosage of sulfadimethoxime in dogs - a correction. *Canadian Journal of Comparative Medicine* **41**, 479-480.
4. Y.K. Fung, R.G. Rahwan, and R.A. Sams (1977) Separation of vitamin A compounds by thin-layer chromatography. *Journal of Chromatography* **147**: 528-531.
5. H.D. Mercer, J.D. Baggot, and R.A. Sams (1977) Application of pharmacokinetics to the drug residue profile. *Journal of Toxicology and Environmental Health* **2**, 787-801.
6. R.A. Sams and R.H. Huffman (1978) A thin-layer chromatographic test for

reserpine in plasma. *Journal of Chromatography* **161**, 410-419.

7. R.A. Sams (1978) Determination of reserpine in plasma, using high performance liquid chromatography with fluorescence detection. *Analytical Letters* **B11**, 697-707.
8. C.W. Kohn, W.W. Muir, and R.A. Sams (1978) Plasma volume and extracellular fluid volume in horses at rest and following exercise. *American Journal of Veterinary Research* **39**, 871-874.
9. W.W. Muir, C.W. Kohn, and R.A. Sams (1978) Effects of furosemide on plasma volume and extracellular fluid volume in horses. *American Journal of Veterinary Research* **39**, 1688-1691.
10. R.H. Reuning, V.K. Batra, T.M. Ludden, M.Y. Jao, B.E. Morrison, D.A. McCarthy, S.E. Harrigan, S.B. Ashcraft, R.A. Sams, M.S. Bathala, A.E. Staubus, and L. Malspeis (1979) Plasma naltrexone kinetics after intravenous bolus administration in dogs and monkeys. *Journal of Pharmaceutical Sciences* **68**, 411-416.
11. W.W. Muir, R.A. Sams, and R.H. Huffman (1980) Cardiopulmonary, behavioral and pharmacokinetic effects of propoxyphene in horses. *American Journal of Veterinary Research* **41**, 575-580.
12. J.A.E. Hubbell, W.W. Muir, and R.A. Sams (1980) Guaifenesin: cardiopulmonary effects and plasma concentrations in horses. *American Journal Veterinary Research* **41**, 1751-1756.
13. J.T. Robertson, W.W. Muir, and R.A. Sams (1981) Cardiopulmonary effects of butorphanol tartrate in horses. *American Journal of Veterinary Research* **42**, 41-44.
14. S.M. McGuirk, W.W. Muir, and R.A. Sams (1981) Pharmacokinetic analysis of intravenously and orally administered quinidine in horses. *American Journal of Veterinary Research* **42**, 938-942.
15. S.M. McGuirk, W.W. Muir, and R.A. Sams (1981) Pharmacokinetic analysis of intravenously and orally administered quinidine in cows. *American Journal of Veterinary Research* **42**, 1482-1487.
16. W.W. Muir, R.A. Sams, R.H. Huffman, and J.S. Noonan (1982) Pharmacodynamic and pharmacokinetic properties of diazepam in horses. *American Journal of Veterinary Research* **43**, 1756-1762.
17. S.M. McGuirk, W.W. Muir, R.A. Sams, and D.M. Rings (1983) Atrial fibrillation in cows: clinical findings and therapeutic considerations. *Journal of the American Veterinary Medical Association* **182**, 1380-1386.
18. W.W. Muir, R.A. Sams, and S.M. Ashcraft (1984) Pharmacologic and pharmacokinetic properties of methocarbamol in horses. *American Journal of Veterinary Research* **45**, 2256-2260.

19. R.A. Sams (1984) Principles of clinical pharmacokinetics of antimicrobial drugs. *Journal of the American Veterinary Medical Association* **185**, 1068-1971.
20. R.A. Sams and W.W. Ruoff (1985) Pharmacokinetics and bioavailability of cefazolin in horses. *American Journal of Veterinary Research* **46**, 348-352.
21. L.R. Soma, R. Sams, W. Duer, T. Tobin, C. Woodward, and J. McDonald (1985) Plasma and serum concentrations of phenylbutazone and oxyphenbutazone in racing Thoroughbreds 24 hours after treatment with various dosage regimens. *American Journal Veterinary Research* **46**, 932-938.
22. R.A. Sams, W.W. Muir, R. Detra, and E. Robinson (1985) Comparative pharmacokinetics and anesthetic effects of methohexital, pentobarbital, thiamylal, and thiopental in Greyhound and non-Greyhound dogs. *American Journal of Veterinary Research* **46**, 1677-1683.
23. W.W. Ruoff and R.A. Sams (1985) Pharmacokinetics and bioavailability of cephalothin in horses. *American Journal of Veterinary Research* **46**, 2085-2090.
24. D.F. Gerken and R.A. Sams (1985) Inhibitory effects of intravenous chloramphenicol sodium succinate on the disposition of phenylbutazone in horses. *Journal of Pharmacokinetics and Biopharmaceutics* **13**, 467-476.
25. S.P. Di Bartola, D.J. Chew, M.J. Tarr, and R.A. Sams (1985) Hemodialysis of a dog with acute renal failure. *Journal American Veterinary Medical Association* **186**, 1323-1326.
26. G.H. Spurlock, S.L. Landry, R. Sams, S. McGuirk, and W.W. Muir (1985) Effect of endotoxin administration on body fluid compartments in the horse. *American Journal of Veterinary Research* **46**, 1117-1120.
27. K.M. Wernette, J.A. Hubbell, W.W. Muir, and R.A. Sams (1986) Doxapram: cardiopulmonary effects in the horse. *American Journal of Veterinary Research* **47**, 1360-1362.
28. T.A. Shepard, J. Hui, A. Chandrasekaran, R.A. Sams, R. H. Reuning, L.W. Robertson, J.H. Caldwell, and R.L. Donnerberg (1986) Digoxin and metabolites in urine and feces: a fluorescence derivatization-high performance liquid chromatographic technique. *Journal of Chromatography* **380**, 89-98.
29. J.M. Donecker, R.A. Sams, and S.M. Ashcraft (1986) Pharmacokinetics of probenecid and the effect of oral probenecid on the pharmacokinetics of cefazolin in mares. *American Journal of Veterinary Research* **47**, 89-95.
30. E.P. Robinson, R.A. Sams, and W.W. Muir (1986) Barbiturate anesthesia in Greyhound and mixed-breed dogs: comparative cardiopulmonary effects, anesthetic effects, and recovery rates. *American Journal of Veterinary Research* **47**, 2105-2112.
31. R.A. Sams and P. Pizzo (1987) Detection and identification of ketamine and its metabolites in horse urine. *Journal of Analytical Toxicology* **11**, 58-62.

32. J.A.E. Hubbell, W.W. Muir, J.T. Robertson, and R.A. Sams (1987) Cardiovascular effects of intravenous sodium penicillin, sodium cefazolin, and sodium citrate in awake and anesthetized horses. *Veterinary Surgery* **16**, 245-250.
33. L.E. Mathes, G. Muschik, L. Demby, P. Polas, D.W. Mellini, H.J. Issaq, and R. Sams (1988) High performance liquid chromatographic determination of 2',3'-dideoxycytidine and 3'-azido-3'-deoxythymidine in plasma using a column switching technique. *Journal of Chromatography* **432**, 346-351.
34. R.A. Sams and W.W. Muir (1988) Effects of phenobarbital on thiopental pharmacokinetics in greyhounds. *American Journal of Veterinary Research* **49**, 245-249.
35. Y. Rikihisa, S.M. Reed, R.A. Sams, J.C. Gordon, and C.I. Pretzman (1990). Serosurvey of horses with evidence of equine monocytic ehrlichiosis. *Journal of the American Veterinary Medical Association* **197**, 1327-1332.
36. C.L. Swenson, R.A. Sams, P.J. Polas, D.F. Michael, and L.E. Mathes (1990). Age-related differences in pharmacokinetics of phosphoformate in cats. *Antimicrobial Agents & Chemotherapy* **34**, 871-874.
37. C.E. Uboh, J.A. Rudy, L.R. Soma, M. Fennell, L. May, R.A. Sams, F.A. Railing, J. Shellenberger, and M. Kahler (1991). Characterization of bromhexine and ambroxol in equine urine: effect of furosemide on identification and confirmation. *Journal of Pharmaceutical & Biomedical Analysis* **9**, 33-39.
38. P.J. Polas, C.L. Swenson, R. Sams, C.M. Cheney, K.A Hayes, M.J. Tarr, G.J. Kociba, and L.E. Mathes (1990). In vitro and in vivo evidence that the antiviral activity of 2',3'-dideoxycytidine is target cell dependent in a feline retrovirus animal model. *Antimicrobial Agents & Chemotherapy* **34**, 1414-1421.
39. D.D. Gerken and R.A. Sams (1988) Pharmacokinetics of oxyphenbutazone in horses. *Journal of Veterinary Pharmacology and Therapeutics* **11**, 283-287.
40. R.M. Bednarski, R.A. Sams, L.J. Majors, and S. Ashcraft (1988) Reduction of the ventricular arrhythmogenic dose of epinephrine by ketamine administration in halothane-anesthetized cats. *American Journal of Veterinary Research* **49**, 350-355.
41. K.J. Varma, R.A. Sams, R.D. Lobell, and P.W. Lockwood (1991) Pharmacokinetics and efficacy of a new broad spectrum antibiotic, florfenicol in cattle. *Acta Veterinaria Scandinavica - Supplement* **87**, 102-104.
42. A.D. Jernigan, G.D. St. Jean, D.M. Rings, and R.A. Sams (1991) Pharmacokinetics of rifampin in adult sheep. *American Journal of Veterinary Research* **52**, 1626-1629.
43. M.V. Crisman, J.R. Wilke, R.A. Sams, and D.F. Gerken (1991) Concentrations of phenylbutazone and oxyphenbutazone in post-parturient mares and their neonatal foals. *Journal of Veterinary Pharmacology and Therapeutics* **14**, 330-334.

44. R.A. Sams, R.L. Detra, and W.W. Muir (1992) Pharmacokinetics and metabolism of intravenous doxapram in horses. *Equine Veterinary Journal* **11**, 45-51.
45. W.W. Muir and R.A. Sams (1992) Effects of ketamine infusion on halothane minimal alveolar concentration in horses. *American Journal of Veterinary Research* **53**, 1802-1806.
46. W.W. Muir, R.A. Sams, and S.M. Ashcraft (1992) The pharmacology and pharmacokinetics of high-dose methocarbamol in horses. *Equine Veterinary Journal. Supplement* **11**, 41-44.
47. C.E. Uboh, L.R. Soma, J.A. Rudy, E. Morgan, K. Menringhausen, and R. Sams (1992) Plasma concentrations of furosemide versus specific gravity of urine in predicting dose of administration in race horses. *Research Communications in Chemical Pathology and Pharmacology* **77**, 201-208.
48. C.W. Kohn, R. Sams, J.J. Kowalski, J. Powers, and S. Wallace (1993) Pharmacokinetics of single intravenous and single and multiple dose oral administration of rifampin in mares. *Journal of Veterinary Pharmacology and Therapeutics* **16**, 119-131.
49. K.W. Hinchcliff, K.H. McKeever, W.W. Muir, and R.A. Sams (1993) Effect of furosemide and weight carriage on energetic responses of horses to incremental exertion. *American Journal of Veterinary Research* **54**, 1500-1504.
50. C.W. Kohn, R.A. Sams, J.J. Kowalski, J. Powers, and S. Wallace (1993) Pharmacokinetics of single intravenous and single and multiple dose oral administration of rifampin in mares. *Journal of Veterinary Pharmacology and Therapeutics* **16**, 119-131.
51. S.D. Semrad, R.A. Sams, O.N. Harris, and S.M. Ashcraft (1993) Effects of concurrent administration of phenylbutazone and flunixin meglumine on pharmacokinetic variables and *in vitro* generation of thromboxane B₂ in mares. *American Journal of Veterinary Research* **54**, 1901-1905.
52. S.D. Semrad, J.T. McClure, R.A. Sams, and L.M. Kaminski (1993) Pharmacokinetics and effects of repeated administration of phenylbutazone in neonatal calves. *American Journal of Veterinary Research* **54**, 1906-1912.
53. J.R. Wilcke, M.V. Crisman, R.A. Sams, and D.F. Gerken (1993) Pharmacokinetics of phenylbutazone in neonatal foals. *American Journal of Veterinary Research* **54**, 2064-2067.
54. S.D. Semrad, R.A. Sams, and S.M. Ashcraft (1993) Pharmacokinetics of and serum thromboxane suppression by flunixin meglumine in healthy foals during the first month of life. *American Journal of Veterinary Research* **54**, 2083-2087.
55. R.A. Sams (1993) Chemical assay of avermectins by high performance liquid chromatography with fluorescence detection. *Veterinary Parasitology* **48**, 59-66.
56. B. Martinsen, T.E. Horsberg, K.J. Varma, and R.A. Sams (1993) Single dose pharmacokinetic study of florfenicol in Atlantic salmon (*Salmo salar*) in seawater

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57. K.H. McKeever, K.W. Hinchcliff, D.F. Gerken, and R.A. Sams (1993) Effects of cocaine on incremental treadmill exercise in horses. *Journal of Applied Physiology* **75**, 2727-2733.
58. R.D. Lobell, K.J. Varma, J.C. Johnson, R.A. Sams, D.F. Gerken, and S.M. Ashcraft (1994) Pharmacokinetics of florfenicol following intravenous and intramuscular doses to cattle. *Journal of Veterinary Pharmacology and Therapeutics* **17**, 253-258.
59. R.A. Sams, D.F. Gerken, and S.M. Ashcraft (1995) Pharmacokinetics of ketoprofen after multiple intravenous doses in horses. *Journal of Veterinary Pharmacology and Therapeutics* **18**, 108-116.
60. L.A. Mitten, K.W. Hinchcliff, and R.A. Sams (1995) A portable blood gas analyzer for equine blood. *Journal of Veterinary Internal Medicine* **9**, 353-356.
61. S.D. Stanley, R.A. Sams, J.D. Harkins, G.D. Mundy, J. Boyles, W.E. Woods, and T. Tobin (1995) Frequency distribution of post race urine pH from standardbreds compared with thoroughbreds: research and regulatory significance. *Equine Veterinary Journal* **27**, 471-473.
62. J.D. Harkins, S.D. Stanley, G.D. Mundy, R.A. Sams, W.E. Woods, and T. Tobin (1995) A review of the pharmacology, pharmacokinetics, and regulatory control in the US of local anesthetics in the horse. *Journal of Veterinary Pharmacology and Therapeutics* **18**, 397-406.
63. K.W. Hinchcliff, K.H. McKeever, W.W. Muir, and R.A. Sams (1995) Pharmacologic interaction of furosemide and phenylbutazone in horses. *American Journal of Veterinary Research* **56**, 1206-1212.
64. M.C. Tzou, R.A. Sams, and R.H. Reuning (1995) Specific and sensitive determination of digoxin and metabolites in human serum by high performance liquid chromatography with cyclodextrin solid-phase extraction and pre-column fluorescence derivatization. *Journal of Pharmaceutical and Biomedical Analysis* **13**, 1531-1540.
65. R.P. Herd, R.A. Sams, and S.M. Ashcraft (1996) Persistence of ivermectin in plasma and feces following treatment of cows with ivermectin sustained-release, pour-on or injectable formulations. *International Journal for Parasitology* **26**, 1087-1093.
66. T.M. Dyke, K.W. Hinchcliff, R.A. Sams, K.H. McKeever, and W.W. Muir (1996) The effects of submaximal exercise on the pharmacokinetics of furosemide in horses. *Journal of Veterinary Pharmacology and Therapeutics* **19**, 164-166.
67. R.A. Sams, D.F. Gerken, R.A. Detra, S.D. Stanley, W.E. Wood, T. Tobin, J.-M. Yang, H.-H. Tai, A. Jegananthan, and D.S. Watt (1996) Identification of metabolites of azaperone in horse urine, *Journal of Pharmaceutical Sciences* **85**, 79-84.

68. J.D. Lillich, A.L. Bertone, L.M. Schmall, A.J. Ruggles, and R.A. Sams (1996) Plasma, urine, and synovial fluid disposition of methylprednisolone acetate and isoflupredone acetate after intra-articular administration. *American Journal of Veterinary Research* **57**, 187-192.
69. W.W. Muir, R.A. Sams, and S.F. Schall (1996) Haemodynamic, electrocardiographic, electrophysiologic and pharmacokinetic activity of 4'-hydroxypropranolol in dogs. *Journal of Veterinary Pharmacology and Therapeutics* **19**, 259-267.
70. J.D. Harkins, G.D. Mundy, S. Stanley, W.E. Woods, R.A. Sams, D.R. Richardson and T. Tobin (1996) Character and duration of pharmacological effects of intravenous isoxsuprine. *Equine Veterinary Journal* **28**, 320-326.
71. K.W. Hinchcliff, K.H. McKeever, W.W. Muir, and R.A. Sams (1996) Furosemide reduces accumulated oxygen deficit in horses during brief intense exertion. *Journal of Applied Physiology* **81**, 1550-1554.
72. J.D. Harkins, G.D. Mundy, S. Stanley, W.E. Woods, J. Boyles, R.A. Arthur, R.A. Sams, and T. Tobin (1996) Regulatory significance of procaine residues in plasma and urine samples: preliminary communication. *Equine Veterinary Journal* **28**, 121-125.
73. M.V. Crisman, J.R. Wilcke, and R.A. Sams (1996) Pharmacokinetics of flunixin meglumine in healthy foals less than twenty-four hours old. *American Journal of Veterinary Research* **57**: 1759-1761.
74. R.A. Sams, D.F. Gerken, and S.M. Ashcraft (1997) Pharmacokinetics of intravenous and oral prethcamide in horses. *Journal of Pharmaceutical and Biomedical Analysis* **15**: 639-651.
75. G. Jacobs, T. Whitem, R.A. Sams, C. Calvert, and D. Ferguson (1997) Pharmacokinetics of propranolol in healthy cats during euthyroid and hyperthyroid states. *American Journal of Veterinary Research* **58**: 398-403.
76. L.J. Rivas, K.W. Hinchcliff, C.W. Kohn, R.A. Sams, and D.J. Chew (1997) Effect of sodium bicarbonate administration on renal function of horses. *American Journal of Veterinary Research* **58**: 664-671.
77. J.A. Hubbell, K.W. Hinchcliff, W.W. Muir, J.T. Robertson, and R.A. Sams (1997) Cardiorespiratory and metabolic effects of walking, standing, and standing with a splint during the recuperative period from maximal exercise in horses. *American Journal of Veterinary Research* **58**: 1003-1009.
78. M.C. Tzou, R.H. Reuning, and R.A. Sams (1997) Quantitation of interference in digoxin immunoassay in renal, hepatic, and diabetic disease. *Clinical Pharmacology and Therapeutics* **61**: 429-441.
79. T.M. Dyke, R.A. Sams, S.B. Cosgrove (1997) Disposition of flunixin after intramuscular administration to horses. *Journal of Veterinary Pharmacology and Therapeutics* **20**: 330-332.

80. R.A. Sams, D.F. Gerken, T.M. Dyke, S.M. Reed, and S.M. Ashcraft (1997) Pharmacokinetics of intravenous and intragastric cimetidine in horses. *Journal of Veterinary Pharmacology and Therapeutics* **20**: 355-361.
81. J.D. Harkins, G.D. Mundy, S.D. Stanley, R.A. Sams, and T. Tobin (1997) Lack of local anaesthetic efficacy of Sarapin in the abaxial sesamoid block model. *Journal of Veterinary Pharmacology and Therapeutics* **20**, 229 - 232.
82. L.J. Rivas, K.W. Hinchcliff, C.W. Kohn, R.A. Sams, and D.J. Chew (1997) Effect of sodium bicarbonate administration on blood constituents of horses. *American Journal of Veterinary Research* **58**: 658-663.
83. S.O. Wagner, R.A. Sams, and M. Podell (1998) Chronic phenobarbital therapy reduces plasma benzodiazepine concentrations after intravenous and rectal administration the dog. *Journal of Veterinary Pharmacology and Therapeutics* **21**, 335 - 341.
84. C.R. Short, R.A. Sams, L.R. Soma, T. Tobin (1998) The regulation of drugs and medicines in horse racing in the United States. The Association of Racing Commissioners International Uniform Classification of Foreign Substances Guidelines. *Journal of Veterinary Pharmacology and Therapeutics* **21**, 145-153.
85. J.D. Harkins, G.D. Mundy, S. Stanley, W.E. Woods, R.A. Sams, D.R. Richardson, S.C. Grambow, and T. Tobin (1998). Absence of detectable pharmacological effects after oral administration of isoxsuprine. *Equine Veterinary Journal* **30**, 294-299.
86. T.M. Dyke and R.A. Sams (1998). Detection and determination of theobromine and caffeine in urine after administration of chocolate-coated peanuts to horses. *Journal of Analytical Toxicology* **22**, 112-116.
87. J.R. Wilcke, M.V. Crisman, W.K. Scarratt, and R.A. Sams (1998). Pharmacokinetics of ketoprofen in healthy foals less than twenty-four hours old. *American Journal of Veterinary Research* **59**, 290-292.
88. T.M. Dyke, R.A. Sams, and K.W. Hinchcliff (1998). Antipyrine pharmacokinetics and urinary excretion in female horses. *American Journal of Veterinary Research* **59**, 280-285.
89. T.M. Dyke, R.A. Sams, and K.W. Hinchcliff (1998). Intensity-dependent effects of acute submaximal exercise of the pharmacokinetics of bromsulphalein in horses. *American Journal of Veterinary Research* **59**, 1481-1487.
90. T.M. Dyke, R.A. Sams, K.G. Thompson, and S.M. Ashcraft (1998). Pharmacokinetics of multiple-dose administration of eltenac in horses. *American Journal of Veterinary Research* **59**, 1447-1450.
91. T.M. Dyke, J.A.E. Hubbell, R.A. Sams, and K.W. Hinchcliff (1998). Hepatic blood flow in horses during the recuperative period from maximal exercise. *American Journal of Veterinary Research* **59**, 1476-1480.
92. T.M. Dyke, R.A. Sams, and K.W. Hinchcliff (1998). Exercise-training induced

- alterations in hepatic function in mares. *Journal of Applied Physiology* **85**, 1442-1447.
93. T.M. Dyke, J.A.E. Hubbell, D.A. Grosenbaugh, W. Beard, L. Mitten, R.A. Sams, K.W. Hinchcliff (1998) The pharmacokinetics of furosemide in anesthetized horses after bilateral ureteral ligation. *Journal of Veterinary Pharmacology and Therapeutics* **21**, 298-303.
 94. M. Podell, S.O. Wagner, and R.A. Sams (1998) Lorazepam concentrations in plasma following its intravenous and rectal administration in dogs. *Journal of Veterinary Pharmacology and Therapeutics* **21**, 158-160.
 95. T.M. Dyke, K.W. Hinchcliff, and R.A. Sams (1999). Attenuation by phenylbutazone of the renal effects and excretion of frusemide in horses. *Equine Veterinary Journal* **31**:289-295.
 96. J.A.E. Hubbell, K.W. Hinchcliff, M. Schmall, W.W. Muir, J.T. Robertson, and R.A. Sams (1999) Cardiorespiratory and metabolic effects of xylazine, detomidine, and a combination of xylazine and acepromazine administered after exercise in horses. *American Journal of Veterinary Research* **60**: 1271-1279.
 97. R.A. Sams, D.F. Gerken, and S.M. Ashcraft (1999) Detection and identification of flunixin after multiple intravenous and intramuscular administration doses to horses. *Journal of Analytical Toxicology* **23**: 372-379.
 98. T. Tobin, J.D. Harkins, and R.A. Sams (1999) Testing for therapeutic medications: analytical/pharmacological relationships and "limitations" on the sensitivity of testing for certain agents. *Journal of Veterinary Pharmacology and Therapeutics* **22**, 220-233.
 99. M.D. Barnhart, J.A.E. Hubbell, W.W. Muir, R.A. Sams, and R.M. Bednarski (2000) Pharmacokinetics, pharmacodynamics, and analgesic effects of morphine after rectal, intramuscular, and intravenous administration in dogs. *American Journal of Veterinary Research* **61**: 24-28.
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 123. B.C. Moeller, R.A. Sams, J. Guinjab, N. Szabo, P. Colahan, S.D. Stanley (2011) An interlaboratory study of the pharmacokinetics of testosterone following intramuscular administration to Thoroughbred horses. *Journal of Veterinary Pharmacology and Therapeutics* **34**: 588–593.
 124. M.J. Rumpler, R.A. Sams, and P. Colahan (2011) Pharmacokinetics of glycopyrrolate following intravenous administration in the horse. *Journal of Veterinary Pharmacology and Therapeutics* **34**: 605–608.
 125. J.P. Scarth, C. Seibert, P.R. Brown, P. Teale, G.J. Beamon, C.M. Pearce, and R.A. Sams (2011). UPLC-MS/MS Method for the Identification of Recombinant Human Erythropoietin Analogues in Horse Plasma and Urine. *Chromatographia* **74**: 593-608.
 126. M.J. Rumpler, R.A. Sams, and P. Colahan (2012) Regulatory control of glycopyrrolate in performance horses using validated UHPLC/MS-MS methods. *Journal of Chromatography B* **889-890**: 130-137.

CONTINUING EDUCATION

“Pharmacology and Drug Testing for Stewards”, University of Louisville, November 2005
“Pharmacology for Presiding Judges”, United States Trotting Association, June 2007
“Pharmacology and Drug Testing for Stewards”, Tampa Bay Downs, March 2008
“Pharmacology for Presiding Judges”, United States Trotting Association, September 2008
“Investigator Training” for Florida Department of Business and Professional Regulation Employees, University of Florida, May 2008

CONSULTATION ACTIVITIES

Expert witness for Drug Enforcement Administration in Miami, Florida and Columbus, Ohio

Expert witness for the American Horse Shows Association

Consultant for Industrial Laboratories Inc., Merck, Schering-Plough Animal Health, Heska, Ciba-Geigy Corporation, and Hoechst-Roussel Animal Health

Consultant or expert witness for racing commissions in Kentucky, Washington, California, Louisiana, Oklahoma, Texas, Minnesota, Pennsylvania, West Virginia, Nebraska, and Ohio

Technical consultant for the Racing Medication and Testing Consortium, 2001-present

MONOGRAPHS:

“Acepromazine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Albuterol Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Butorphanol Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Clenbuterol Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Dantrolene Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Detomidine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Dexamethasone Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2009.
“Glycopyrrolate Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2009.
“Lidocaine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Mepivacaine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Methocarbamol Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.

“Nandrolone Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Phenytoin Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Pyrilamine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Reserpine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.
“Xylazine Detection in the Horse”, drug monograph prepared for the Racing and Medication Testing Consortium, 2008.

WORKSHOPS (attended)

“Pharmacokinetics for Pharmaceutical Scientists”, University of California at San Francisco, San Francisco, California, February, 1989.

“Forensic Urine Drug Testing, University of Utah”, Salt Lake City, Utah, February 1990.

“Achieving Accreditation for Your Laboratory”, A2LA, Washington, D.C., October; 1991.

“Trial Simulator v2.2.1 Hands-On Training”, Pharsight Corporation, Lake Buena Vista, Florida, February 2008

WORKSHOPS (organized)

“Quantitative Methods in the Racing Laboratory”, 3-day workshop presented at the AORC annual meeting in conjunction with the annual meeting of the RCI in Jackson Hole, Wyoming, April 2008; organized in conjunction with Scott D, Stanley (UC Davis).

“Detection and Identification of Anabolic-Androgenic Steroids in Race Horse Samples”, 4-day workshop presented at UC Davis in April 2008; organized in conjunction with Scott D, Stanley (UC Davis).