Myron Hinsdale, Ph.D.

Associate Professor
Department of Physiological Sciences
College of Veterinary Medicine
Oklahoma State University

Contact Information:
E-mail: myron.hinsdale@okstate.edu

Phone: 405-744-8107

Office: Oklahoma State University, Stillwater, OK 74078

Education:
1983: B.S., Biology, Rocky Mountain College, MT
1987: D.V.M., Veterinary Medicine, Colorado State University, CO
1994: Ph.D., Molecular and Cellular Pathology, Univ. of Alabama at Birmingham, AL
1994-1995: Post-Doctoral Training, Laboratories of Drs. Nobuyo, Maeda and Oliver Smithies University of North Carolina at Chapel Hill
1995-2000: Clinical Instructor, Laboratories of Drs. Nobuyo Maeda and Oliver Smithies, University of North Carolina at Chapel Hill

Academic Appointments:
1979-1983: Received B.S. in Biology and a minor in Chemistry, Rocky Mountain College, MT. Magna Cum Laude, Independent study Analyzing Melanin Pathway in Pleospora herbarum
1987-1988: Small Animal Intern, Rainbow Animal Hospital, NV.
1988-1994: Resident Fellow, Laboratory Animal Medicine Training Program, Department of Comparative Medicine, University of Alabama, AL.
1988-1994: Received Ph.D. in Molecular and Cellular Pathology, Department of Comparative Medicine, University of Alabama, AL. Research involved characterization of a mouse model of fatty acid oxidation deficiency and using that model to elucidate the effects of age, enzyme deficiency, and metabolic state on gene expression of fatty acid oxidation genes.
1994-2000: Clinical Veterinarian in the Department of Laboratory Animal Medicine, University of North Carolina at Chapel Hill.
1994-1995: Postdoctoral Fellow, Department of Pathology and Laboratory Medicine, University of North Carolina at Chapel Hill.
1995-2000: Clinical Instructor, Department of Pathology and Laboratory Medicine, Laboratories of Drs. Nobuyo Maeda and Oliver Smithies, University of North Carolina at Chapel Hill.
2000-2007: Assistant Member, Cardiovascular Biology Program, Oklahoma Medical Research Foundation, OK.
2004-present: Adjunct Faculty, Cell Biology, University of Oklahoma Health Sciences Center, OK
2006-2007: Associate Laboratory Animal Director, Oklahoma Medical Research Foundation, OK
2009-2010: Primary Attending Laboratory Animal Veterinarian, Oklahoma Medical Research Foundation, OK
2010-2011: Secondary Attending Laboratory Animal Veterinarian, Oklahoma Medical Research Foundation, OK
2007-present: Affiliate Member, Cardiovascular Biology Program, Oklahoma Medical Research Foundation, OK.
2007-2013: Assistant Professor, Physiological Sciences, Oklahoma State University, OK
2013-present: Associate Professor, Physiological Sciences, Oklahoma State University, OK

Awards and Honors:
1987: CSU: The Society of Phi Zeta
2002-2014: Member, American Heart Association Affiliate Research Advisory Committee
2007: Member, American Heart Association South Central Research Planning Subgroup
2007: Invited speaker at Fifth International Conference on Proteoglycans, Rio de Janiero, Brazil, Title: "Proteoglycans in liver and kidney homeostasis"
2008: Presenter, American Association for the Advancement of Science-Southwestern and Rocky Mountain Division
2008-2010: Vice-Chair, American Heart Association South Central Affiliate Research Advisory Committee
2011-2013: Chair, American Heart Association South Central Affiliate Research Advisory Committee
2007-present: Ad Hoc reviewer for: Journal of Biological Chemistry, Journal of Cellular and Molecular Medicine, Glycobiology, Laboratory Animal Research Journal, National Academy of Science, Journal of Medical Genetics, American Journal of Medical Genetics, and Clinical Genetics
2010: Oral presentation, Proteoglycan Gordon Research Conference, Andover, NH

Other Professional Memberships:
American Society for the Advancement of Science
Society for Glycobiology
American Society for Biochemistry and Molecular Biology
American Association of Laboratory Animal Science
American Heart Association
American Veterinary Medical Association

Research Support:
Current:

Past:

- 2013-2018: NIH 1 P20, Oklahoma Center for Respiratory and Infectious Diseases-Animal Models Core. This proposal's focus is to train junior faculty that are new to using animal models for respiratory diseases and to prepare them for future extramural funding. Role: Co-I, Animal Models Core Director
- 2017: Oklahoma Center for Adult Stem Cell Research, Equipment grant-Brukker XTreme in vivo Bioluminescence/Fluorescence imager, XTreme bioluminescence imagining, This grant's focus is to purchase a research bioluminescence, radiographic, and fluorescent imaginer., Role: Co-PI
- 2016-2017: United States Dept. of Agriculture, Proteoglycans and insulin resistance: Novel mechanisms, This proposal's focus is to investigate the distribution and expression of GLUT proteins in our lipodystrophic animal model., Role: Co-PI
- 2010-2015: NIH 1R01DK087989-01, Extracellular determinants of polycystic kidney disease severity, The focus of this grant is to study the role that proteoglycan levels have in lesion severity in PKD and specifically ARPKD.
- This grant has received a 5th percentile ranking, resulted in one paper accepted to American Journal Human Genetics, one submitted to Journal of Clinical Investigation, another submitted to Matrix Biology, and one book chapter on Xylosyltransferases., Role: PI
- 2010-2014: NIH RO1 HL-084494-01A2, Regulation of placenta growth factor by hemodynamics and reactive oxygen species., The focus of this grant is to study the role that placental growth factor has in arteriogenesis and what alterations in its control occur in diabetes., Role: Co-I

Selected Publications:

1. M.E. Hinsdale, H.M., P. Sullivan, L. Toth, and N. Maeda. (1998). Strategies for altering the mouse genome and their application in the study of atherogenesis. In Atherosclerosis XI, D.M.a.J.-C.F. B. Jacotot, ed. (Elsevier Sciences (Singapore) Pte Ltd.), pp 1029-1034.

2. Knouff, C., Hinsdale, M.E., Mezdour, H., Altenburg, M.K., Watanabe, M., Quarfordt, S.H., Sullivan, P.M., and Maeda, N. (1999). Apo E structure determines VLDL clearance and atherosclerosis risk in mice. J Clin Invest 103, 1579-1586.
3. Hinsdale, M.E., Sullivan, P.M., Mezdour, H., and Maeda, N. (2002). ApoB-48 and apoB-100 differentially influence the expression of type-III hyperlipoproteinemia in APOE*2 mice. J Lipid Res 43, 1520-1528.
4. Hinsdale, M.E., and Maeda, N. (2005). Complex control of mouse apolipoprotein B gene expression revealed by targeted duplication. Biochim Biophys Acta 1734, 178-189.
5. He, C., Medley, S.C., Hu, T., Hinsdale, M.E., Lupu, F., Virmani, R., and Olson, L.E. (2015). PDGFRbeta signaling regulates local inflammation and synergizes with hypercholesterolemia to promote atherosclerosis. Nat Communications 6, 7770.
6. Xiao, X., Huang, C., Zhao, C., Gou, X., Senavirathna, L.K., Hinsdale, M.E, Lloyd, P., and Liu, L. (2015). Regulation of myofibroblast differentiation by miR-424 during epithelial-to-mesenchymal transition. Arch Biochem Biophys 566, 49-57.
7. Zhang, L., Huang, C., Guo, Y., Gou, X., Hinsdale, M.E, Lloyd, P., and Liu, L. (2015). MicroRNA-26b Modulates the NF-kappaB Pathway in Alveolar Macrophages by Regulating PTEN. J Immunol.
8. Lin, L., Lloyd, P., and Hinsdale, M.E. (2015). Lung Development. In miRNA in Regenerative Medicine, C.K. Sen, ed. (Academic Press, Elsevier, Inc.), pp 381-399.
9. Condac, E., Silasi-Mansat, R., Kosanke, S., Schoeb, T., Towner, R., Lupu, F., Cummings, R.D., and Hinsdale, M.E. (2007). Polycystic disease caused by deficiency in xylosyltransferase 2, an initiating enzyme of glycosaminoglycan biosynthesis. Proceedings of the National Academy of Sciences of the United States of America 104, 9416-9421 (This paper was selected by Faculty 1000 for 2007: http://f1000.com/prime/1087194).
10. Cuellar, K., Chuong, H., Hubbell, S.M., and Hinsdale, M.E. (2007). Biosynthesis of chondroitin and heparan sulfate in chinese hamster ovary cells depends on xylosyltransferase II. J Biol Chem 282, 5195-5200.
11. Condac, E., Dale, G.L., Bender-Neal, D., Ferencz, B., Towner, R., and Hinsdale, M.E. (2009). Xylosyltransferase II is a significant contributor of circulating xylosyltransferase levels and platelets constitute an important source of xylosyltransferase in serum. Glycobiology 19, 829-833.
12. Hinsdale, M.E. (2014). Xylosyltransferase. In Handbook of Glycosyltransferases and Related Genes, K.H. Naoyuki Taniguchi, Minoru Fukuda, Hisashi Narimatsu, Yoshiki Yamaguchi, Takashi Angata (eds.), ed. Springer.
13. Munns, C.F., Fahiminiya, S., Poudel, N., Munteanu, M. C, Majewski, J., Sillence, D.O., Metcalf, J.P., Biggin, A., Glorieux, F., Fassier, F., Rauch, F., Hinsdale, M.E. (2015). Homozygosity for Frameshift Mutations in XYLT2 Result in a Spondylo-Ocular Syndrome with Bone Fragility, Cataracts, and Hearing Defects. American Journal of Human Genetics.
14. Sivasami, P., Poudel, N., Munteanu, M.C., Hudson, J., Lovern, P., Liu, L., Griffin, T., Hinsdale, M.E.: Adipose tissue loss and lipodystrophy in xylosyltransferase II deficient mice. Int J Obes (Lond) **43**(9), 1783-1794 (2019). doi:10.1038/s41366-019-0324-1
15. Colijn, S., Gao, S., Ingram, K.G., Menendez, M., Muthukumar, V., Silasi-Mansat, R., Chmielewska, J.J., Hinsdale, M., Lupu, F., Griffin, C.T.: The NuRD chromatin-remodeling complex enzyme CHD4 prevents hypoxia-induced endothelial Ripk3 transcription and murine embryonic vascular rupture. Cell Death Differ (2019). doi:10.1038/s41418-019-0376-8
16. Zhang, L., Huang, C., Guo, Y., Gou, X., Hinsdale, M., Lloyd, P., Liu, L.: MicroRNA-26b Modulates the NF-kappaB Pathway in Alveolar Macrophages by Regulating PTEN. J Immunol (2015). doi:10.4049/jimmunol.1402933
17. Xiao, X., Huang, C., Zhao, C., Gou, X., Senavirathna, L.K., Hinsdale, M., Lloyd, P., Liu, L.: Regulation of myofibroblast differentiation by miR-424 during epithelial-to-mesenchymal transition. Arch Biochem Biophys **566**, 49-57 (2015). doi:10.1016/j.abb.2014.12.007
18. Munns, C.F., Fahiminiya, S., Poudel, N., Munteanu, M.C., Majewski, J., Sillence, D.O., Metcalf, J.P., Biggin, A., Glorieux, F., Fassier, F., Rauch, F., Hinsdale, M.E.: Homozygosity for frameshift mutations in XYLT2 result in a spondylo-ocular syndrome with bone fragility, cataracts, and hearing defects. Am J Hum Genet **96**(6), 971-978 (2015). doi:10.1016/j.ajhg.2015.04.017
19. Lin, L., Lloyd, P., and Hinsdale, M.E.: Lung Development. In: Sen, C.K. (ed.) miRNA in Regenerative Medicine. pp. 381-399. Academic Press, Elsevier, Inc., (2015)
20. He, C., Medley, S.C., Hu, T., Hinsdale, M.E., Lupu, F., Virmani, R., Olson, L.E.: PDGFRbeta signalling regulates local inflammation and synergizes with hypercholesterolaemia to promote atherosclerosis. Nat Commun **6**, 7770 (2015). doi:10.1038/ncomms8770
21. Hinsdale, M.E.: Xylosyltransferase I, II. In: Professor Naoyuki Taniguchi, P.K.H., Professor Minoru Fukuda, Professor Hisashi Narimatsu, Dr. Yoshiki Yamaguchi and Dr. Takashi Angata (ed.) Handbook of Glycosyltransferases and Related Genes. SpringerReference, www.springerreference.com, Springer-Verlag Berlin Heidelberg, (2014)
22. Bender, D.E., Kloos, M.T., Pontius, J.U., Hinsdale, M.E., Bellinger, D.A.: Molecular Characterization of Cat Factor XII Gene and Identification of a Mutation Causing Factor XII Deficiency in a Domestic Shorthair Cat Colony. Vet Pathol (2014).

23. Baireddy, P., Liu, J., Hinsdale, M., Pope, C.: Comparative effects of chlorpyrifos in wild type and cannabinoid Cb1 receptor knockout mice. Toxicol Appl Pharmacol (2011).
24. Condac, E., Dale, G.L., Bender-Neal, D., Ferencz, B., Towner, R., Hinsdale, M.E.: Xylosyltransferase II is a significant contributor of circulating xylosyltransferase levels and platelets constitute an important source of xylosyltransferase in serum. Glycobiology **19**(8), 829-833 (2009). doi:cwp058 [pii] 10.1093/glycob/cwp058
25. Cuellar, K., Chuong, H., Hubbell, S.M., Hinsdale, M.E.: Biosynthesis of chondroitin and heparan sulfate in chinese hamster ovary cells depends on xylosyltransferase II. J Biol Chem **282**(8), 5195-5200 (2007). doi:M611048200 [pii] 10.1074/jbc.M611048200
26. Condac, E., Silasi-Mansat, R., Kosanke, S., Schoeb, T., Towner, R., Lupu, F., Cummings, R.D., Hinsdale, M.E.: Polycystic disease caused by deficiency in xylosyltransferase 2, an initiating enzyme of glycosaminoglycan biosynthesis. Proceedings of the National Academy of Sciences of the United States of America **104**(22), 9416-9421 (2007).
27. Hinsdale, M.E., Maeda, N.: Complex control of mouse apolipoprotein B gene expression revealed by targeted duplication. Biochim Biophys Acta **1734**(2), 178-189 (2005).
28. Hinsdale, M.E., Sullivan, P.M., Mezdour, H., Maeda, N.: ApoB-48 and apoB-100 differentially influence the expression of type-III hyperlipoproteinemia in APOE*2 mice. J. Lipid Res. **43**(9), 1520-1528 (2002).
29. Wood, P.A., Kelly-Kurtz, C.L., Hinsdale, M.E., Hamm, D.A., Rhead, W.J.: Lessons learned from the mouse model of short-chain acyl-CoA dehydrogenase deficiency. Adv Exp Med Biol **466**, 395-402 (1999).
30. Srivastava, R.A., Toth, L., Srivastava, N., Hinsdale, M.E., Maeda, N., Cefalu, A.B., Averna, M., Schonfeld, G.: Regulation of the apolipoprotein B in heterozygous hypobetalipoproteinemic knock-out mice expressing truncated apoB, B81. Low production and enhanced clearance of apoB cause low levels of apoB. Mol Cell Biochem **202**(1-2), 37-46 (1999).
31. Knouff, C., Hinsdale, M.E., Mezdour, H., Altenburg, M.K., Watanabe, M., Quarfordt, S.H., Sullivan, P.M., Maeda, N.: Apo E structure determines VLDL clearance and atherosclerosis risk in mice. J Clin Invest **103**(11), 1579-1586 (1999).
32. M.E. Hinsdale, H.M., P. Sullivan, L. Toth, and N. Maeda: Strategies for altering the mouse genome and their application in the study of atherogenesis. In: B. Jacotot, D.M.a.J.-C.F. (ed.) Atherosclerosis XI. pp. 1029-1034. Elsevier Sciences (Singapore) Pte Ltd., (1998)
33. Lanoue, L., Dehart, D.B., Hinsdale, M.E., Maeda, N., Tint, G.S., Sulik, K.K.: Limb, genital, CNS, and facial malformations result from gene/environment-induced cholesterol deficiency: further evidence for a link to sonic hedgehog. Am J Med Genet **73**(1), 24-31 (1997).