

Erik Eckhardt, Ph.D.

I. General Information

Office address: Graduate Center for Nutritional Sciences, Room 561, Charles T. Wethington Building, 900 South Limestone Street, Lexington, KY 40536-0200. Office Telephone: 859 323-4933x81382. FAX: 859 257-3646. E-mail: eekh2@uky.edu. Certification: Ph.D. (Biochemistry).

II. Education

- 1994 University of Nijmegen (Netherlands), M.S. in Physiology and Biochemistry
- 1999 University of Utrecht (Netherlands), Gastroenterology Division of the University Medical Center Utrecht. Ph.D.

III. Professional Experiences

- 5/1999 – GI Division of Brigham and Women's Hospital, Department of
4/2001 Medicine, Harvard Medical School and Harvard Digestive Diseases Center (Laboratory of Professor Carey). Post-Doctoral Research Fellow.
- 3/2001 and Laboratory of Nutritional Physiology, University of South Paris, Orsay,
3/2002 France (Laboratory of Professor Luton). Visiting Assistant Professor.
- 5/2001 - Department of Medicine, Division of Endocrinology and Molecular
Medicine, University of Kentucky (Laboratory of Professor van der Westhuyzen). Senior Research Associate.

IV. Academic Appointments

- 7/2005 Assistant Professor, Gastroenterology Division, Internal Medicine Department, College of Medicine, University of Kentucky
- 3/2001 and Laboratory of Nutritional Physiology, University of South Paris, Orsay,
3/2002 France (Laboratory of Professor Luton). Visiting Assistant Professor.

V. Teaching Activities

- 05/1991- University of Nijmegen, Netherlands. Teaching assistant during
09/1992 practical courses in zoology, molecular biology and cell biology.

3/2001 and 3/2002 Laboratory of Nutritional Physiology, University of South Paris, Orsay, France (Laboratory of Professor Luton). Visiting Assistant Professor. Lectures on intestinal lipid absorption as part of undergraduate courses on lipid metabolism

VI. Advising Activities

1995-1999 University of Utrecht (Netherlands), Gastroenterology Division of the University Medical Center Utrecht. Advising of rotating undergraduate students.

5/2001 - Department of Medicine, Division of Endocrinology and Molecular Medicine, University of Kentucky (Laboratory of Professor van der Westhuyzen). Advising of graduate students.

VII. Honors and Awards

- 2002-2004. Post-doctoral Fellowship Award by the American Heart Association, Ohio Valley Affiliate.
- 1999. Poster of Distinction at the Digestive Disease Week of the American Gastroenterological Association, New Orleans.
- 2003. Poster presentation award at the Gill Heart Institute's Cardiovascular Research Day, Lexington, KY.

VIII. Professional Activity and Public Service

- Member of the American Heart Association
- Member of the American Gastroenterological Association
- Member of the American Society for Biochemistry and Molecular Biology

IX. Research and/or Creative Productivity

Publications

A. Peer reviewed publications

- Pagler T. A., Rhode S., Neuhofer A., Laggner H., Strobl W., Hinterdorfer C., Volf I., Pavelka M., **Eckhardt E.R.M.**, van der Westhuyzen D.R., Schutz G. J., Stangl H. 2006. SR-BI mediated HDL endocytosis leads to HDL resecretion facilitating cholesterol efflux. *J Biol Chem.* **ePub**
- **Eckhardt, E.R.**, Cai L, Shetty S, Zhao Z, Szanto A, Webb N.R., Van Der Westhuyzen D.R. 2006 High Density Lipoprotein Endocytosis by Scavenger

Receptor SR-BII Is Clathrin-dependent and Requires a Carboxyl-terminal Dileucine Motif. *J Biol Chem.* 281(7):4348-53.

- **Eckhardt, E.R.**, Cai L, Sun B, Webb N.R., Van Der Westhuyzen D.R. 2004 HDL uptake by Scavenger Receptor SR-BII. *J Biol Chem.* 279(14):14372-81.
- Cai L, **Eckhardt E.R.**, Shi W, Zhao Z, Nasser M, De Villiers WJ, Van Der Westhuyzen D.R. 2004 Scavenger receptor class B type I reduces cholesterol absorption in cultured enterocyte CaCo-2 cells. *J Lipid Res.* 45(2):253-62.
- **Eckhardt, E.R.**, Wang, D. Q.-H., Donovan, J., Carey, M.C. Dietary 2002. Sphingomyelin Curtails Intestinal Cholesterol Absorption in Vivo by Decreasing Thermodynamic Activity of Cholesterol Monomers in Mixed Micellar Solution.. *Gastroenterology* 122(4):948-56.
- Moschetta, A., **Eckhardt, E.R.**, De Smet, M.B., Renooij, W., Van Berge-Henegouwen, G.P., Van Erpecum, K.J. 2001. Accurate separation of vesicles, micelles and cholesterol crystals in supersaturated model bile by ultracentrifugation, ultrafiltration and dialysis. *BBA* 1532:15-27
- Souidi, M., Combettes-Souverain, M., Milliat, F., **Eckhardt, E.R.**, Audas, O., Dubrac, S., Parquet, M., Férézou, J., Lutton, C. 2001. Hamsters predisposed to sucrose-induced cholesterol gallstones (LPN strain) are more resistant to excess dietary cholesterol than hamsters that are not sensitive to cholelithiasis induction. *J Nutr.* 131:1803-11.
- Férézou, J., Combettes-Souverain, M., Souidi, M., Smith, J.L., Boehler, N., Milliat, F., **Eckhardt, E.R.**, Blanchard, G., Riottot, M., Sérougne, C., Lutton, C. 2000. Cholesterol, bile acid and lipoprotein metabolism in two strains of hamster, one resistant, the other sensitive (LPN) to sucrose-induced cholelithiasis. *J. Lipid Res.* 41:2042-2054
- **Eckhardt E.R.**, van Erpecum K.J., de Smet M.B., Go P.M., van Berge-Henegouwen G.P., Renooij W. 1999. Lipid solubilization in human gallbladder versus hepatic bile. *J. Hepatol.* 31(6):1020-1025
- **Eckhardt, E.R.**, A. Moschetta, W. Renooij, S.S. Goerdayal, G.P. van Berge-Henegouwen, and K.J. van Erpecum. 1999. Asymmetric distribution of phosphatidylcholine and sphingomyelin between micellar and vesicular phases. Potential implications for canalicular bile formation. *J. Lipid Res.* 40:2022-2033.
- **Eckhardt, E.R.**, B.J. van de Heijning, K.J. van Erpecum, W. Renooij, and G.P. van Berge-Henegouwen. 1998. Quantitation of cholesterol-carrying particles in human gallbladder bile. *J. Lipid Res.* 39:594-603.
- van Erpecum, K.J., van Berge-Henegouwen, G.P., **Eckhardt, E.R.**, Portincasa, P., Van De Heijning, B.J., Dallinga-Thie, G.M., Groen, A.K. 1998. Cholesterol crystallization in human gallbladder bile: relation to gallstone number, bile composition, and apolipoprotein E4 isoform. *Hepatology.* 27:1508-1516.
- van Erpecum, K.J., Portincasa, P., **Eckhardt, E.R.** Go, P.M., van Berge-Henegouwen, G.P., Groen, A.K. 1996. Ursodeoxycholic acid reduces protein levels

and nucleation-promoting activity in human gallbladder bile. *Gastroenterology*. 110:1225-1237.

- Groneveld, D., **Eckhardt, E.R.**, Coenen, A.J., Martens, G.J., Balm, P.H., Wendelaar-Bonga, S.E. 1995. Expression of tilapia prepro-melanin-concentrating hormone mRNA in hypothalamic and neurohypophysial cells. *J. Mol. Endocrinol.* 14:199-207.
- **Eckhardt, E.**, C. Pierrot, P. Thuet, F. van Herp, M. Charmantier-Daures, J.-P. Trilles, and G. Charmantier. 1995. Stimulation of osmoregulating processes in the perfused gill of the crab *Pachygrapsus marmoratus* (Crustacea, Decapoda) by a sinus gland peptide. *Gen. Comp. Endocrinol.* 99:169-177.
- Pierrot, C., **E.R.M. Eckhardt**, F. van Herp, M. Charmantier-Daures, G. Charmantier, J.P. Trilles, and P. Thuet. 1994. Effect of sinus gland extracts on the osmoregulatory physiology of perfused gills from the crab *Pachygrapsus marmoratus*. *C.R.Acad.Sci.,Life Sci.* 317: 411-418.

B. Abstracts:

- Zhong J., **Eckhardt E.R.**, Oz R., Bruemmer D., de Villiers, J.S. 2006. Osteopontin-Deficiency Protects Mice from DSS-Induced Colitis. Poster at the Keystone Symposium "Innate Immunity" in Banff, Canada.
- Shetty S.S., **Eckhardt E.R.**, Post S.R., van der Westhuyzen, D.R. 2006. Regulation of Scavenger Receptor Class B Type I Subcellular Localization and Function by Hdl and Insulin. Poster at the XIVth International Symposium on Atherosclerosis, Rome, Italy
- Shetty S.S., **Eckhardt E.R.**, Post S.R., van der Westhuyzen, D.R. 2006. PI3-Kinase regulates SR-BI distribution and selective lipid uptake in hepatocytes. Poster at the 7th annual ATVB meeting in Denver, CO.
- **Eckhardt, E.R.**, Cai L, Shetty S, Zhao Z, Szanto A, Webb N.R., Van Der Westhuyzen D.R. 2005. Mechanism of HDL endocytosis by Scavenger Receptor SR-BII. Oral Presentation at the annual Atherosclerosis, Thrombosis and Vascular Biology meeting of the American Heart Association, Washington, DC.
- **Eckhardt, E.R.**, Lei Cai, Attila Szanto, Nancy R. Webb and Deneys R. Van Der Westhuyzen. 2004. HDL Particle Uptake by Scavenger Receptor SR-BII Requires the Carboxy-Terminal Di-Leucine Motif. Poster presentation at the annual Atherosclerosis, Thrombosis and Vascular Biology meeting of the American Heart Association, San Francisco, CA.
- **Eckhardt, E.R.**, L. Cai, N. R. Webb., D.R. van der Westhuyzen. 2003. HDL Uptake by Scavenger Receptor SR-BII. Poster presentation at the annual Gill Heart Research Day, Lexington, KY
- **Eckhardt, E.R.**, L. Cai, W. J. de Villiers, D. R. van der Westhuyzen. 2003. Micellar cholesterol regulates expression of Scavenger Receptor BI in the CaCo-2 enterocyte model. Poster presentation at the annual Atherosclerosis, Thrombosis and Vascular Biology meeting, Washington, DC.

- **Eckhardt, E.R.**, L. Cai, W. Shi, M. Nasser, W. J. de Villiers, D. R. van der Westhuyzen. 2002. Scavenger Receptor BI (SR-BI) regulates micellar cholesterol influx into Caco-2 cells Poster presentation at the annual “Digestive Disease Week” of the American Gastroenterological Association, San Francisco, CA.
- **Eckhardt, E.R.**, D. Q. Wang, J. M. Donovan, M. C. Carey. 2001. Dietary sphingomyelin markedly decreases intestinal cholesterol absorption by lowering cholesterol monomeric activity in mixed micellar solutions Poster presentation at the annual “Digestive Disease Week” of the American Gastroenterological Association, Atlanta, GA.
- **Eckhardt, E.R.M**, S.S. Goerdayal, W. Renooij, G.P. van Berge Henegouwen, and K.J. van Erpecum. 1998. Preferential localization of phosphatidylcholine in micellar and sphingomyelin in vesicular phases: implications for canalicular bile formation. Oral Presentation at the Annual Meeting of the American Gastroenterological Association in New Orleans, LA.
- **Eckhardt, E.R.M.**, W. Renooij, M.B.M. de Smet, P.M.N.Y.H. Go, K.J. van Erpecum, and G.P. van Berge Henegouwen 1998. Accurate quantification of cholesterol-solubilizing particles in human gallbladder and hepatic biles: potential implications for gallstone formation. Poster at the Annual Meeting of the American Gastroenterological Association in New Orleans, LA.
- van Erpecum, K.J., P. Portincasa, **E.R.M. Eckhardt**, B.J.M. van de Heijning, A.K. Groen, and G.P. van Berge-Henegouwen. 1998. Increased risk of cholesterol gallstone formation in subjects with apolipoprotein e4 genotype: its relation to bile composition and crystallization. Poster at the Annual Meeting of the American Gastroenterological Association in New Orleans, LA.
- **Eckhardt, E.R.M.**, B.J.M. van de Heijning, K.J. van Erpecum, W. Renooij, and G.P. van Berge-Henegouwen. 1996. Vesicular cholesterol in human bile measured by gel filtration using the intermicellar bile salt concentration and species composition predicts cholesterol crystallization rate. Poster at the Annual meeting of the American Association for the Study of Liver Diseases (AASLD) in Chicago, Ill.
- **Eckhardt, E.R.M.**, B.J.M. van de Heijning, K.J. van Erpecum, W. Renooij, and G.P. van Berge-Henegouwen. Separation of cholesterol carriers in human gallbladder bile by gel filtration using the intermicellar bile salt concentration and species composition. Poster at the Falk Symposium in Freiburg, Germany
- **Eckhardt, E.R.**, B.J.M. van de Heijning, K.J. van Erpecum, W. Renooij, and G.P. van Berge-Henegouwen. 1996. Separation of cholesterol carriers in human bile by gel filtration with intermicellar bile salt concentration and species composition: comparison with KBr ultracentrifugation and relation to cholesterol crystallization. Poster at the Falk Symposium in Freiburg, Germany.

Grant and Contract Activity

1991: Grant of the European Council (Erasmus), funds were used for an extended stay at the Laboratory of Invertebrate Ecophysiology in Montpellier, France, for an undergraduate research project. 100% research.

1992: Grant of the European Council (Comett), funds were used for an extended stay at the Laboratory of Invertebrate Ecophysiology in Montpellier, France, for an undergraduate research project. 100% research.

1992: Grant of the Royal Dutch Academy for Arts and Sciences (“KNAW”), Dutch Institute for Oceanic Research (“NIOZ”), funds were used for an extended stay at the Laboratory of Invertebrate Ecophysiology in Montpellier, France, for an undergraduate research project. 100% research.

2004-2008: R01 (NIH). DK 46923 Prolactin and bile secretory function. PI: Dr. Mary Vore, University of Kentucky. 10% effort, my role will be to perform cholesterol absorption studies in rats.

2005: R01 (NIH). PI: Dr. van der Westhuyzen, University of Kentucky. SR-BI and SR-BII recycling and selective lipid uptake. Co-investigator. Direct costs are 225 000.

2005: Broad Medical Foundation. “Dietary Sphingomyelin Supplementation as a Means of Delivery of Pro-Apoptotic and Anti-Chemotactic Agents to Inflamed Intestinal Tissue in Crohn’s Disease”. Submitted June 15, 2005.

2005: R21 (NIH) PI: Dr. N. Souza, University of Kentucky. “Aging, Diet and Lung Inflammation”. 5% effort. Submitted September 12, 2005. My role will be to help with adipokine assays, interpretation of data and preparation of manuscripts.