

NANCY R. WEBB, Ph.D.
ASSOCIATE PROFESSOR, REGULAR TITLE SERIES
UNIVERSITY OF KENTUCKY MEDICAL CENTER

Updated: October, 2009

I. Home Address

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Birth Date:
Certifications/Licensure: N/A
Marital Status: Married – Bruce A. Webb, Ph.D. Two children.

II. Education

Institution	Dates	Degree	Subject
University of Virginia	1977-1981	B.A. (with Distinction)	Biology
University of Colorado	1981-1982		Pharmacology
University of Kentucky	1995-1999	Ph.D.	Microbiology and Immunology

III. Professional Experience

9/82-8/83 Department of Biochemistry, University of Kentucky, Lexington
9/82: Research Analyst
7/83: Promoted to Senior Research Analyst

10/83-1/88 Molecular Biology Department, Oncogen, Seattle, WA.
10/83: Research Technologist I
11/84: Promoted to Research Technologist II
11/85: Promoted to Senior Research Associate
1/87: Promoted to Principal Research Associate

3/88-11/90 Department of Entomology, Texas A & M University, College Station
Research Associate

1/91-12/94 American Cyanamid Agricultural Research Division, Princeton, NJ
Molecular Biologist

IV. Academic Appointments

- 1/95-8/99 Department of Internal Medicine, Division of Endocrinology and
Molecular Medicine, University of Kentucky, Lexington
Biomedical Scientist
- 9/99-6/05 Department of Internal Medicine, Division of Endocrinology and
Molecular Medicine, University of Kentucky, Lexington
Assistant Professor
- 7/05-6/09 Department of Internal Medicine, Division of Endocrinology and
Molecular Medicine, University of Kentucky, Lexington
Associate Professor with tenure
- 7/09- Department of Internal Medicine, Division of Endocrinology and
Molecular Medicine, University of Kentucky, Lexington
Professor with tenure

V. Hospital Appointments – N/A

VI. Consultative Service – N/A

VII. Teaching Activities

- 2002-present MI615: Molecular Biology; 3 lecture contact hours
2003-present NS606: Molecular Biological Applications in Nutrition; Course
Director; 20 lecture contact hours
2003 ABT395: Molecular Genetics; 1 lecture contact hour
2004 ABT201: 1 lecture contact hour
2006 ABT201: 1 lecture contact hour
2008 Mechanisms of Human Diseases: 2 lecture contact hours

VII. Advising Activities

Mentor for C.O.B.R.E.

- 2006- Victoria King

Postdoctoral Fellows

- 2003-2005 Boris Boyanovsky

Graduate students

- 2000-2006 Bing Sun
2002-2006 Meredith Bostrom
2005-present Xia Li
2006-present Melissa Zack

Undergraduate students

- 2000-2001 Whitney Browning: advisor for ABT395 research project
2001-2002 Ryan Mulligan: advisor for ABT395 research project
2002-2003 Tiffany Taylor: advisor for ABT395 research project
2003-2004 Joseph Slusher: advisor for ABT395 research project
2005-2007 Daniel Slusher: advisor for ABT395 research project
(recipient of Agricultural Biotech undergraduate research award)

2008- Kayla Talbott: advisor for ABT395 research project
(recipient of AMSTEMM Summer Research Grant)

Graduate student committees

2000-2006 Bing Sun (major advisor)
2002-2006 Meredith Bostrom (major advisor)
2003-2008 Lewamy Mamadou
2003-2007 Shoba Shetty
2005-present Xia Li (major advisor)
2006-present Xuan Zhang
2006-present Melissa Zack (major advisor)
2008-present Akin Akinmusire
2008-present Nicholas Hatch
2008 Huiyun Shen (outside examiner)
2008 Phillip Owens (outside examiner)
2008 Huiyun Shen (outside examiner)
2009-present Nadeem Mohammed

IX. Administrative Activities

2000-present VA Medical Center Institutional Animal Care and Use Committee
2002 Chair, VAMC Institutional Animal Care and Use Committee
2003-2005 Curriculum Committee, Graduate Center for Nutritional Sciences
2003-present Equipment Committee, Graduate Center for Nutritional Sciences
2003 Search Committee, Graduate Center for Nutritional Sciences
Director
2004-present University of Kentucky College of Medicine Non-indemnified Risk
Committee
2004-present Department of Medicine Committee on Gender Equity
2005 Search Committee, Veteran's Administration Research Service
Administrative Officer
2005 Member, University of Kentucky Center on Drug and Alcohol
Research Six Year Review Committee
2005 Member, University of Kentucky HHMI Committee
2006 Search Committee, University of Kentucky Department of Surgery
Chair
2006-present Member, University of Kentucky Department of Internal Medicine
Appointments, Promotion, and Tenure Committee
2008 Chair-elect, VAMC Institutional Animal Care and Use Committee
2009 Chair, VAMC Institutional Animal Care and Use Committee
2009 Search Committee, University of Kentucky Center for Nutritional
Sciences

XI. Special Assignments

XII. Honors and Awards

1981-1982 NIH NRSA Pre-doctoral Fellowship
1999 NIH Postdoctoral Fellowship (declined)
1999 American Heart Association Postdoctoral Fellowship (declined)
2000-2001 University of Kentucky Medical Center Research Fund Award
2001-2004 American Heart Association Scientific Development Grant
2002-2003 Atorvastatin Research Award
2004 Finalist, Irvine H. Page Young Investigator Research Award

2004-2009 American Heart Association, Council on Arteriosclerosis,
Thrombosis and Vascular Biology
Annual University of Kentucky Wethington Research Award

XII. Professional Activity and Public Service

- 1989-present American Society for Virology
2001-present American Heart Association
2001-present Arteriosclerosis Council of the American Heart Association
- 2006 Member, Program Committee, Conference on Arteriosclerosis,
Thrombosis and Vascular Biology
2006-2007 Member, Research Committee, American Heart Association
Ohio Valley Affiliate
2006-2007 Member, Steering Committee, American Heart Association
Ohio Valley Affiliate
2007-2011 Member, Research Committee, American Heart Association
Great Rivers Affiliate
2008-2010 Member, Women's Research Leadership Committee, American
Heart Association Council on Arteriosclerosis, Thrombosis, and
Vascular Biology
2009 Co-Chair, Southeast Lipid Research Conference, Callaway
Gardens, GA October 2009
2010 Chair, Southeast Lipid Research Conference
- Grant reviewer:
- Member, NIH Study Section, Clinical and Integrative Cardiovascular Science (March 2005-June 2011)
 - Member, NIH Special Emphasis Panel Hematology IRG, ZRg1-HEME-C (February 2007 and December 2007)
 - Member, Peer Review Committee 2B, American Heart Association, Ohio Valley Affiliate (2003-2006)
 - Co-chair, Peer Review Committee 2B, American Heart Association, Great Rivers Affiliate (2007-2009)
 - Chair, Peer Review Committee 2B, American Heart Association, Great Rivers Affiliate (2010)
 - Ad hoc reviewer, Natural Sciences and Engineering Research Council of Canada
 - Ad hoc reviewer, Austrian Science Fund
- Manuscript reviewer:
- Atherosclerosis
 - Arteriosclerosis, Thrombosis and Vascular Biology
 - Biochimica et Biophysica Acta
 - Circulation
 - Circulation Research
 - Journal Lipid Research
 - Journal Clinical Investigations
 - Lipids
 - Nature Medicine
 - New England Journal of Medicine
 - Pharmacological Research
- Abstract grader
- Scientific Sessions, American Heart Association, 2004-2007
 - Conference on Arteriosclerosis, Thrombosis, and Vascular Biology, 2005-2008

- Session chair
- Southeast Lipid Research Conference, 2004
 - Scientific Sessions, American Heart Association, 2004
 - Scientific Sessions, American Heart Association, 2006
 - Conference on Arteriosclerosis, Thrombosis and Vascular Biology, 2006
 - Scientific Sessions, American Heart Association, 2007
 - Southeast Lipid Research Conference, 2008
- Mentor
- University of Kentucky “Girls in Research” Program for middle school age girls 2004-present
- Judge
- Kentucky State Science Fair 2007
 - Regional Science Fair 2008

XIII. Speaking Engagements

Local

- 1995 Department of Internal Medicine Research Seminar Series
“Viral Vectors: Tools for the Researcher and Clinician”
- 2000 Graduate Center for Nutritional Sciences Seminar Series
“The HDL receptor SR-BI”
- 2001 University of Kentucky Cardiovascular Seminar Series
“The metabolic fate of high density lipoproteins after processing by the scavenger receptor B-I.”
- 2002 Department of Pathology Seminar Series
“Charting the fate of HDL particles in vivo: Studies in mice over-expressing the scavenger receptor B-I”
- 2004 Graduate Center for Nutritional Sciences Seminar Series
“A mechanistic link between LDL and atherosclerosis”

National

- 1996 Gordon Research Conference on Serum Amyloid A (Ventura, CA)
“Adenoviral vectors in the study of SAA function”
- 1999 American Heart Association (Atlanta, Georgia)
“SR-BI over-expression results in depletion of apoB-containing lipoproteins that accumulate in apoE-deficient, but not LDL receptor-deficient or apoB transgenic, mice”
- 2002 Southeast Lipid Research Conference (Callaway Gardens, GA)
“The fate of HDL particles after selective lipid uptake”
- 2003 Atorvastatin Research Awards Summit (Salt Lake City, Utah)
“Secretory phospholipases and atherosclerosis: Local and systemic effects”
- 2003 Southeast Lipid Research Conference (Callaway Gardens, GA)
“Group V sPLA₂: Potential Role in Atherosclerosis”
- 2004 5th Annual Conference on Arteriosclerosis, Thrombosis and Vascular Biology (San Francisco, CA) “Hydrolysis of low-density lipoprotein by secretory phospholipase A₂ results in spontaneous particle aggregation and promotes macrophage foam cell formation”
- 2004 Gordon Research Conference on Lipoprotein Metabolism (Meriden, NH) “Role of secretory phospholipases in lipoprotein metabolism and atherosclerosis”
- 2005 University of California, Davis
“Secretory phospholipase A₂ enzymes: A link between LDL and atherosclerosis?”

- 2005 Columbia University
“Group V sPLA₂: A mechanistic link between LDL and atherosclerosis?”
- 2006 7th Annual Conference of Arteriosclerosis, Thrombosis and Vascular Biology (Denver, CO) “Secretory Phospholipase A₂ in Atherosclerosis”
- 2006 FASEB Research Conference on Phospholipases (Saxtons River, VT) “Secretory phospholipase A₂ enzymes: A mechanistic link between LDL and atherosclerosis?”
- 2007 Boehringer Ingelheim Pharmaceuticals, Inc. (Ridgefield, CT) “Secretory Phospholipase A₂ in Atherosclerosis”
- 2007 Pfizer (Chesterfield, MO) “Secretory Phospholipase A₂ and Atherosclerosis”
- 2007 University of Cincinnati Obesity Research Center “Secretory phospholipase A₂’s and atherosclerosis”
- 2007 Scientific Sessions (Orlando, FL) “Group X sPLA₂ deficiency increases adiposity and adipose tissue inflammation in mice”
- 2008 Gordon Research Conference on Lipoprotein Metabolism (Waterville Valley, NH) “Group X sPLA₂ negatively regulates lipolysis in adipose tissue”
- 2008 FASEB Research Conference on Phospholipid Metabolism (New Haven, CT) “Group V sPLA₂ in atherosclerosis: An update”
- 2008 Southeast Lipid Research Conference (Callaway Gardens, GA) “Role of Group X sPLA₂ in adipose tissue”

International

- 1999 European Atherosclerosis Society (Athens, Greece)
“Scavenger Receptor BI (SR-BI) and clearance of apoB-containing lipoproteins in apoE-deficient mice”

XIV. Research and/or Creative Productivity

PUBLICATIONS

1. Dunwiddie, T.V., **Roberson, N.L. (Webb)**, and Worth, T. (1982) Modulation of long term potentiation: Effects of adrenergic and neuroleptic drugs. *Pharm. Bioch. and Behav.* 17: 1257-1264.
2. **Webb, N.R.**, Chari, R.V.S., Depillis, G., Kozarich, J.W., and Rhoads R.E. (1984) Purification of the messenger RNA cap-binding protein using a new affinity medium. *Biochemistry* 223: 177-181.
3. Hiremath, L.S., **Webb, N.R.**, and Rhoads, R.E. (1985) Immunological detection of the messenger RNA cap-binding protein. *J. Biol. Chem.* 260: 7843-7849.
4. Lee, D.C., Rose, T.M., **Webb, N.R.**, and Todaro, G.J. (1985) Cloning and sequence analysis of a cDNA for rat transforming growth factor-alpha. *Nature* 313: 489-491.
5. Todaro, G.J., Lee, D.C., **Webb, N.R.**, Rose, T.M., and Brown, J.P. (1985) Rat type-alpha transforming growth factor: Structure and possible function as a membrane receptor. *In*: *Cancer Cells 3: Growth Factors and Transformation*, Cold Spring Harbor. Symposium pp 51-58.

6. **Webb, N.R.**, Rose, T.M., Malik, N., Marquardt, H., Shoyab, M., Todaro, G.J., and Lee, D.C. (1987) Bovine and human complementary DNA sequences encoding a putative benzodiazepine receptor ligand. *DNA* 6: 71-79.
7. Lee, D.C., Rose, T.M., **Webb, N.R.**, Twardzik, D.R., Ranchalis, J., Marquardt, H., and Todaro, G.J. (1987) Rat transforming-alpha is apparently cleaved from a transmembrane precursor by an unusual protease. *In: A Prospective on Biology and Medicine in the 21st Century* pp 187-198.
8. Gentry, L.E., **Webb, N.R.**, Lim, G.J., Brunner, A. M., Ranchalis, J.E., Twardzik, D.R., Lioubin, M.N., Marquardt, H., and Purchio, A.F. (1987) Type 1 trans-forming beta: Amplified expression and secretion of mature and precursor polypeptides in Chinese hamster ovary cells. *Mol. Cell. Biol.* 7: 3418-3427.
9. Madisen, L., **Webb, N.R.**, Rose, T.M., Marquardt, H., Ikeda, T., Twardzik, D., Seyedin, S., and Purchio, A.F. (1988) Transforming growth factor- β 2: cDNA cloning and sequence analysis. *DNA* 7: 1-8.
10. **Webb, N.R.**, Madisen, L., Rose, T.M., and Purchio, A.F. (1988) Structural and sequence analysis of TGF- β 2 cDNA clones predicts two different precursor proteins produced by alternative mRNA splicing. *DNA* 7: 493-497.
11. Madisen, L., Farrand, A.L., Lioubin, M.N., Marzowski, J., Knox, L.B., **Webb, N.R.**, Lim, J., and Purchio, A.F. (1989) Expression and characterization of recombinant TGF-beta 2 proteins produced in mammalian cells. *DNA* 8: 205-212.
12. Bascom, C.C., Wolfshohl, J.R., Coffey, R.J. Jr., Madisen, L., **Webb, N.R.**, Purchio, A.R., Derynck, R., and Moses, H.L. Complex regulation of transforming growth factor beta 1, beta 2, and beta 3 mRNA expression in mouse fibroblasts and keratinocytes by transforming growth factors beta 1 and beta 2. *Mol. Cell Biol.* 9: 5508-5515.
13. **Webb, N.R.**, Madoulet, C., Tosi, F., Broussard, D.R., Sneed, L., Nicolau, C., and Summers, M.D. (1989) Cell-surface expression and purification of human CD4 produced in baculovirus-infected insect cells. *Proc. Natl. Acad. Sci. USA* 86:7731-7735.
14. **Webb, N.R.**, and Summers, M. D. (1990) Expression of proteins using recombinant baculoviruses. *Technique* 2:173-188.
15. De Beer, M. C., de Beer, F. C., Gerardot, C.J., Cecil, D.R., **Webb, N.R.**, Goodson, M.L., and Kindy, M.S. (1996) Structure of the mouse *Saa4* gene and its linkage to the serum amyloid A gene family. *Genomics* 34:139-142.
16. **Webb, N.R.**, de Beer, M.C., van der Westhuyzen, D.R., Kindy, M.S., Banka, C.L., Tsukamoto, K., Rader, D.J., and de Beer, F.C. (1997) Adenoviral vector-mediated over-expression of serum amyloid A in apoA-I-deficient mice. *J. Lipid Res.* 38:45-52.
17. **Webb, N.R.**, de Villiers, W.J.S., Connell, P.M., de Beer, F.C., and van der Westhuyzen, D.R. (1997) Alternative forms of the scavenger receptor BI (SR-BI). *J. Lipid Res.* 38:1490-1495.
18. Welch, C.L., Xia, Y.-R., Gu, L.-J., Machleder, D., Mehrabian, M., Wen, P.Z., **Webb, N.**, de Williers, W.J.S., van der Westhuyzen, D., and Lusic, A.J. (1997) *Srb1* maps

to mouse chromosome 5 in a region harboring putative QTLs for plasma lipoprotein levels. *Mammalian Genome* 8:942-944.

19. **Webb, N.R.**, Connell, P.M., Graf, G.A., Smart, E.J., de Villiers, W.J.S., de Beer, F.C., and van der Westhuyzen, D.R. (1998) SR-BII, an isoform of the scavenger receptor BI containing an alternate cytoplasmic tail, mediates lipid transfer between high density lipoprotein and cells. *J. Biol. Chem.* 273:15241-15248.
20. Hosai, H., **Webb, N.R.**, Glick, J., Purdom, M.S., de Beer, F.C., and Rader, D.J. (1999) Expression of serum amyloid A protein in the absence of the acute phase response is not sufficient to reduce HDL cholesterol or apoA-I levels in mice. *J. Lipid Res.* 40: 1-6.
21. De Beer, F.C., Connell, P.M., Yu, J., de Beer, M.C., **Webb, N.R.**, and van der Westhuyzen, D.R. (2000) HDL modification by secretory phospholipase A₂ promotes SR-BI interaction and accelerates HDL catabolism. *J. Lipid Res.* 41: 1849-1857.
22. De Beer, M.C., Durbin D.M., Cai L., Mirochi N., Jonas, A., **Webb, N.R.**, de Beer, F.C., and van der Westhuyzen, D.R. (2001) Apolipoprotein A-II modulates the binding and selective lipid uptake of reconstituted HDL by scavenger receptor B-I. *J. Biol. Chem.* 276: 15832-15839.
23. De Villiers, W.J.S., Cai, L., **Webb, N.R.**, de Beer, M.C., van der Westhuyzen, D.R., and de Beer, F.C. (2001) CD36 does not play a direct role in HDL or LDL metabolism. *J. Lipid Res.* 42: 1231-1238.
24. **Webb, N.R.**, de Beer, M.C., Yu, J., Kindy, M.S., Daugherty, A., van der Westhuyzen, D.R., and de Beer, F.C. (2002) Overexpression of SR-BI by adenoviral vector promotes clearance of apoA-I, but not apoB, in human apoB transgenic mice. *J. Lipid Res.* 43: 1421-1428.
25. **Webb, N.R.**, Cai, L., Ziemba, K.S., Yu, J., Kindy, M.S., van der Westhuyzen, D.R., and de Beer, F.C. (2002) The fate of HDL particles in vivo after SR-BI mediated selective lipid uptake. *J. Lipid Res.* 43: 1890-1898.
26. **Webb, N.R.**, Bostrom, M.A., Szilvassy, S.J., van der Westhuyzen, D.R., Daugherty, A., and de Beer, F.C. (2003). Macrophage-expressed Group IIA sPLA₂ increases atherosclerotic lesion formation in LDL receptor-deficient mice. *Arterioscler. Thromb. Vasc. Biol.* 23: 263-268.
27. De Beer, M.C., Zhao, Z., **Webb, N.R.**, van der Westhuyzen, D.R., and de Villiers, W.J.S. (2003) Lack of a direct role for macrosialin in oxidized LDL metabolism. *J. Lipid Res.* 44: 674-685.
28. **Webb, N.R.**, de Beer, M.C., de Beer, F.C., van der Westhuyzen, D.R. (2004) Apolipoprotein B containing lipoproteins in apoE-deficient mice are not metabolized by the class B scavenger receptor BI. *J. Lipid Res.* 45: 272-280.
29. Cabana, V.G., Feng, N., Reardon, C.A., Lukens, J. **Webb, N.R.**, de Beer, F.C. and Getz, G.S. (2004) Influence of apoA-I and apoE on the formation of SAA-containing lipoproteins in vivo and in vitro. *J. Lipid Res.* 45: 317-325.

30. Eckhardt, E.R., Cai, L., Sun, B., **Webb, N.R.**, and van der Westhuyzen, D.R. (2004) High density lipoprotein uptake by scavenger receptor SR-BII. *J. Biol. Chem.* 279: 14372-14381.
31. Wooton-Kee, C.R., Boyanovsky, B.B., Nasser, M.S., de Villiers, W.J.S., and **Webb, N.R.** (2004) Group V sPLA₂ hydrolysis of LDL results in spontaneous particle aggregation and promotes macrophage foam cell formation. *Arterioscler. Thromb. Vasc. Biol.* 24: 762-767.
32. **Webb, N.R.**, de Beer, M.C., Asztalos, B.F., Whitaker, N., van der Westhuyzen, D.R., and de Beer, F.C. (2004) Remodeling of HDL remnants generated by scavenger receptor class B type I. *J. Lipid Res.* 45:1666-73.
33. Out, R., Hoekstra, M., de Jager, S.C., Vos, P.D., van der Westhuyzen, D.R., **Webb, N.R.**, Van Eck, M., Biessen, E.A., Van Berkel, T.J. (2005) Adenovirus-mediated hepatic overexpression of scavenger receptor BI accelerates chylomicron metabolism in C57BL/6J mice. *J Lipid Res.* 46:1172-81.
34. **Webb, N.R.** (2005) Secretory phospholipase A₂ enzymes in atherogenesis. *Curr Opin Lipidol.* 16:341-4.
35. Daugherty, A., **Webb, N.R.**, Rateri, D.L., King, V.K. (2005) Cytokine regulation of macrophage functions in atherogenesis. *J. Lipid Res.* 46:1812-22.
36. Boyanovsky, B.B., van der Westhuyzen, D.R., **Webb, N.R.** (2005) Group V sPLA₂-modified LDL promotes foam cell formation by a SR-A and CD36 independent process that involves cellular proteoglycans. *J. Biol. Chem.* 280:32746-52.
37. de Beer, M.C., van der Westhuyzen, D.R., Whitaker, N.L., **Webb, N.R.**, and de Beer, F.C. (2005) SR-BI-mediated selective lipid uptake segregates apoA-I and apoA-II catabolism. *J. Lipid Res.* 46:2143-50.
38. Eckhardt, E.M., Cai, L., Shetty, S., Zhao, Z., Szanto, A., **Webb, N.R.**, and van der Westhuyzen, D. R. (2006) HDL endocytosis by scavenger receptor SR-BII is clathrin-dependent and requires a carboxy-terminal dileucine motif. *J. Biol. Chem.* 281:4348-53.
39. Sun, B., Eckhardt, E.R., Shetty, S., van der Westhuyzen, D.R., and **Webb, N.R.** (2006) Quantitative analysis of SR-BI-dependent HDL retroendocytosis in hepatocytes and fibroblasts. *J. Lipid Res.* 47:1700-13.
40. De Beer F.C., and **Webb, N.R.** (2006) Inflammation and atherosclerosis: Group IIa and Group V sPLA₂ are not redundant. *Arterioscler. Thromb. Vasc. Biol.* 26:1421-2.
41. Bostrom, M.A., Boyanovsky, B.B., Jordan, C.T., Wadsworth, M.P., Taatjes, D.J., de Beer, F.C., and **Webb, N.R.** (2007) Group V secretory phospholipase A₂ promotes atherosclerosis: Evidence from genetically altered mice. *Arterioscler. Thromb. Vasc. Biol.* 27:600-6.
42. van der Westhuyzen, D.R., de Beer, F.C., and **Webb, N.R.** (2007) HDL cholesterol transport during inflammation. *Curr. Opin. Lipidol.* 18:147-51.
43. Sun, B., Boyanovsky, B.B., Connelly, M.A., Shridas, P., van der Westhuyzen, D.R., **Webb, N.R.** (2007) Distinct mechanisms for oxLDL uptake and cellular trafficking by class B scavenger receptors CD36 and SR-BI. *J. Lipid Res.* 48:2560-70.

44. Webb, N.R., Moore, K.J. (2007) Macrophage-derived foam cells in atherosclerosis: Lessons from murine models and implications for therapy. *Curr. Drug Targets* 8:1249-63.
45. Wilson P.G., Thompson J.C., **Webb N.R.**, King V.L., Tannock L.R. (2008) SAA, but not CRP, Stimulates Vascular Proteoglycan Synthesis in a Pro-Atherogenic Manner. *Am. J. Pathol.* 173:1902-10.
46. **Webb, N. R.** (2008) Getting to the core in atherosclerosis. *Nat. Med.* 14:1015-1016.
47. Boyanovsky, B.B., **Webb, N.R.** (2009) Biology of Secretory Phospholipase A₂. *Cardiovasc. Drugs Ther.* 23:61-72.
48. Jahangiri, A., de Beer, M.C., Noffsinger, V., Tannock, L.R., Ramaiah, C., **Webb, N.R.**, van der Westhuyzen, D.R., de Beer, F.C. (2009) HDL remodeling during the acute phase response. *Arterioscler. Thromb., Vasc. Biol.* 29:261-266.
49. Boyanovsky, B.B., Shridas, P., Simons, M., van der Westhuyzen, D.R. **Webb, N.R.** (2009) Syndecan-4 mediates macrophage uptake of Group V secretory phospholipase A₂-modified low density lipoprotein. *J. Lipid Res.* 50: 641-50.
50. Boyanovsky, B., Zack, M., Forrest, K, and **Webb, N.R.** (2009) The capacity of Group V sPLA₂ to increase atherogenicity of ApoE^{-/-} and LDLR^{-/-} mouse LDL in vitro predicts its atherogenic role in vivo. *Arterioscler. Thromb. Vasc. Biol.* 29:532-8.
51. De Beer, M.C., **Webb, N.R.**, Whitaker, N.L., Wroblewski, J.M., Jahangiri, A., van der Westhuyzen, D.R., de Beer, F.C. (2009) SR-BI selective lipid uptake: Subsequent metabolism of acute phase HDL. *Arterioscler. Thromb. Vasc. Biol.* 29:1298-303.

ABSTRACTS

Webb, N.R., Rose, T.M., and Lee, D.C. (1987) Complementary DNA sequence encoding a transmembrane protein homologous to the bovine diazepam binding inhibitor. *Membrane Protein Symposium (San Diego, CA).*

Madisen, L., **Webb, N.R.**, Rose, T.M., Marquardt, H., Ikeda, T., Twardzik, D., Seyedin, S., and Purchio, A.F. (1988) cDNA cloning and sequence analysis of transforming growth factor- β 2. *UCLA Symposia on Molecular and Cellular Biology (Keystone, CO).*

Van der Westhuyzen, D.R., **Webb, N.R.**, de Villiers, W.J.S., Connell, P.M., and De Beer, F.C. (1997) Alternative forms of the Scavenger receptor BI (SR-BI). *XIth International Symposium on Atherosclerosis (Paris, France).*

Webb, N.R., Connell, P.M., Graf, G.A., Smart, E.J., de Villiers, W.J.S., De Beer, F.C., and van der Westhuyzen, D.R. (1998) SR-BII, an isoform of the scavenger receptor BI containing an alternate cytoplasmic tail, mediates lipid transfer between

high density lipoprotein and cells. Gordon Research Conference on Lipoprotein Metabolism (Meriden, NH).

Webb, N.R., Ziemba, K., Yu, J., Cai, L., Kindy, M.S., van der Westhuyzen, D.R., and de Beer, F.C. (2001) The fate of HDL particles in vivo after SR-BI selective lipid uptake. Conference on Arteriosclerosis, Thrombosis, and Vascular Biology (Arlington, VA).

Bostrom, M.A., de Beer, F.C., Daugherty, A., **Webb, N.R.** (2002) Macrophage expression of Group IIA sPLA₂ in LDL receptor-deficient mice increases atherosclerotic lesion formation in the absence of systemic effects on lipoprotein metabolism. Conference on Arteriosclerosis, Thrombosis, and Vascular Biology (Salt Lake City, UT).

Wooton-Kee, C.R., Nasser, M., deVilliers, W.J.S., de Beer, F.C., **Webb, N.R.** (2002) Macrophage-expressed Group V secretory phospholipase A₂ modifies LDL and HDL particles and is present in human and mouse atherosclerotic lesions. Conference on Arteriosclerosis, Thrombosis, and Vascular Biology (Salt Lake City, UT).

Wooton-Kee, C.R., **Webb, N.R.** (2003) Hydrolysis of LDL by Group V sPLA₂ results in spontaneous particle aggregation. Conference on Arteriosclerosis, Thrombosis, and Vascular Biology (Washington D.C.).

De Beer, M.C., **Webb, N.R.**, Asztalos, B.F., van der Westhuyzen, D.R., de Beer, F.C. (2003) Remodelling of SR-BI-generated HDL remnants. Conference on Arteriosclerosis, Thrombosis, and Vascular Biology (Washington D.C.).

Sun, B., van der Westhuyzen, D.R., and **Webb, N.R.** (2004) Class B scavenger receptors: Defining receptor and ligand trafficking. Southeast Lipid Research Conference (Callaway Gardens, GA).

Eckhardt, E., Cai, L., Szanto, A., **Webb, N.R.**, van der Westhuyzen, D.R. (2004) HDL particle uptake by scavenger receptor B-II requires the carboxy-terminal dileucine motif. Conference on Arteriosclerosis, Thrombosis, and Vascular Biology (San Francisco, CA).

Bostrom, M.A., Forrest, K., Boyanovsky, B. Daugherty, A., and **Webb, N.R.** (2005) Retroviral vector-mediated overexpression of Group V secretory phospholipase A₂ in hematopoietic cells promotes atherosclerosis in low density lipoprotein receptor deficient mice. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington D.C.).

Sun, B., van der Westhuyzen, D.R., and **Webb, N.R.** (2005) Class B scavenger receptor-mediated high density lipoprotein trafficking. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington D.C.).

Boyanovsky, B., van der Westhuyzen, D.R., and **Webb, N.R.** (2005) Group V secretory phospholipase A₂-modified low density lipoprotein promotes foam cell formation by a SR-A and CD36-independent process that involves cellular proteoglycans. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington D.C.).

- Sun, B., van der Westhuyzen, D.R., and **Webb, N.R.** (2005) A quantitative analysis of high density lipoprotein retroendocytosis by scavenger receptor class B type I. Southeast Lipid Research Conference (Callaway Gardens, GA).
- Bostrom, M.A., Forrest, K. Boyanovsky, B., Daugherty, B., and **Webb, N.R.** (2005) Retrovirus-mediated Group V secretory phospholipase A₂ expression in bone marrow-derived cells promotes atherosclerosis in LDLR^{-/-} mice. Scientific Sessions, American Heart Association (Dallas, TX).
- Boyanovsky, B, Shridas, P., and **Webb, N.R.** (2006) Syndecan-3 and -4 participate in macrophage uptake of low-density lipoproteins hydrolyzed by Group V secretory phospholipase A₂. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Denver CO).
- Sun, B., van der Westhuyzen, D.R., and **Webb, N.R.** (2006) Distinct mechanisms for oxLDL uptake and trafficking by class B scavenger receptors SR-BI and CD36. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Denver CO).
- Shridas, P. and **Webb, N.R.** (2007) Group X secretory phospholipase A₂ plays a role in the regulation of adrenal corticosteroid synthesis. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Chicago, IL).
- Shridas, P., Bailey, W., Oslund, R.C., Gelb, M.H., and **Webb, N.R.** (2007) Group X secretory phospholipase A₂ negatively regulates adrenal glucocorticoid synthesis. Scientific Sessions, American Heart Association (Orlando, FL).
- Boyanovsky, B., Zack, M., and **Webb, N.R.** (2008) The capacity of Group V sPLA₂ to increase atherogenicity of apoE^{-/-} and LDLR^{-/-} mouse LDL *in vitro* predicts its atherogenic role *in vivo*. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Atlanta, GA).
- Boyanovsky, B., Zack, M., and **Webb, N.R.** (2008) Studies in apoE^{-/-} and LDLR^{-/-} mice reveal multiple roles for GV sPLA₂ in atherosclerosis. Southeast Lipid Research Conference (Callaway Gardens, GA).
- Li, X. and **Webb, N.R.** (2008) Role of Group X secretory phospholipase A₂ in adipocytes. Southeast Lipid Research Conference (Callaway Gardens, GA).
- Shridas, P. and **Webb, N.R.** (2008) Group X secretory phospholipase A₂ modulates macrophage inflammatory responses. Southeast Lipid Research Conference (Callaway Gardens, GA).
- Shridas, P., Bailey, W. and **Webb, N.R.** (2009) Group X secretory phospholipase A₂ enhances macrophage inflammatory responses by modulating expression levels of ABCA1 and ABCG1. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington, D.C.).
- Zack, M., Shridas, P., Bailey, M., Forrest, K., Howatt, D.A., Daugherty, A. and **Webb, N.R.** (2009) Group X secretory phospholipase A₂ deficiency protects apoE-deficient mice from angiotensin II-induced abdominal aortic aneurysms. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington, D.C.).

De Beer, M.C. **Webb, N.R.**, Wroblewski, J.M., Rateri, D.L., Ji, A., van der Westhuyzen, D.R., and de Beer, F.C. (2009) Impact of serum amyloid A on high-density lipoprotein composition, levels, and function. Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington, D.C.). Conference on Arteriosclerosis, Thrombosis and Vascular Biology (Washington, D.C.).

Shridas, P., Bailey, W., Gizard, R., Bruemmer, D., and **Webb, N.R.** (2009) Group X secretory phospholipase A₂ negatively regulates activation of liver X receptors. Scientific Sessions, American Heart Association (Orlando, FL).

GRANT AND CONTRACT ACTIVITY

Active Research Support

NIH

P.I.: **N.R. Webb**

Group X sPLA₂: Regulator of Lipolysis and Glucose Homeostasis (R01 DK082419)

08/01/09 - 07/31/14; \$1,659,111 (Direct costs \$1,132,500)

NIH

P.I. A. Daugherty

Project 3 Leader: **N.R. Webb**

Mechanisms of Abdominal Aortic Aneurysms (P01 HL080100-01A1)

04/08/06 – 03/31/11; \$8,438,000 (Direct costs \$5,760,000)

NIH

P.I.: D.R. van der Westhuyzen

Project 3 Leader: **N.R. Webb**

HDL function and metabolism during inflammation (P01 HL086670)

04/01/07–3/31/2012; (Direct costs, \$4,081,724)

NIH

P.I.: Lisa A. Cassis

Mentor: **N.R. Webb**

Center of Research in Obesity and Cardiovascular Disease (1P20 RR021954-01A1)

07/01/08 – 6/30/13; (Direct costs \$7,224,657)

NIH

P.I.: Lisa Tannock

Co-Investigator: **N.R. Webb**

Role of serum amyloid A in atherosclerosis (R01 HL096589)

09/01/09 – 08/31/11 (Direct costs \$524,000)

Completed Research Support

NIH

P.I.: **N.R. Webb**

Co-investigators: F.C. de Beer, D.R. van der Westhuyzen, A. Daugherty

Group V sPLA₂ in Atherosclerosis (R01 HL071098)

04/01/03 - 09/31/08; \$1,810,000 (Direct costs \$1,250,000)

NIH

P.I.: D.R. van der Westhuyzen

Co-Investigator: **N.R. Webb**

SR-BI and SR-BII recycling and selective lipid uptake

8/15/05 – 7/31/09; (Direct costs \$1,125,000)

NIH

P.I.: S.R. Post

Co-investigators: **N.R. Webb**, W. Akers, C. Loftin, G.R. Post

Regulation of Ras signaling by Rlf in myocytes (R01 HL75241)

12/1/03 – 11/30/08; \$1,416,623 (Direct costs, \$1,025,000)

NIH

P.I.: F.C. de Beer

Co-investigators: **N.R. Webb**, D.R. van der Westhuyzen

SR-BI mediated selective cholesterol ester uptake (R01 AG17237)

03/01/01 – 02/28/06; \$1,102,500 (Direct costs \$875,000)

NIH

P.I.: F.C. de Beer

Co-investigators: **N.R. Webb**

SAA and sPLA₂: Role in atherogenesis (R01 HL69463)

09/30/01 – 07/31/05; \$1,206,440 (Direct costs \$1,000,000)

NIH

P.I.: D.R. van der Westhuyzen

Co-investigators: **N.R. Webb**, A. Daugherty, F.C. de Beer

Class B scavenger receptors and foam cell formation (R01 HL65730)

09/15/00-08/31/04; \$882,000 (Direct costs \$700,000)

American Heart Association, Ohio Valley Affiliate

P.I.: Boris Boyanovsky

Sponsor: **N.R. Webb**

Bioactive molecules generated by secretory phospholipase A₂ Group V and Group X hydrolysis of LDL (AHA 0525425B)

07/01/05 – 06/30/07; \$82,000 (Direct costs \$82,000)

American Heart Association, Ohio Valley Affiliate

P.I.: Bing Sun

Sponsor: **N.R. Webb**

Class B scavenger receptors: Defining receptor and ligand trafficking (AHA 0415238B)

07/01/04 – 06/30/06; \$36,000 (Direct costs \$36,000)

American Heart Association, Ohio Valley Affiliate

P.I.: Meredith Bostrom

Sponsor: **N.R. Webb**

Macrophage-derived GX sPLA₂ and atherosclerosis (AHA 0315079B)

07/01/03 – 06/30/04; \$36,000 (Direct costs \$36,000)

American Heart Association, National Center

P.I.: **N.R. Webb**

Scavenger receptor BI: Distinct functional domains (AHA 0130020N)

01/01/01 – 12/31/04; \$260,000 (Direct costs \$236,364)

Atorvastatin Research Awards Program

P.I.: **N.R. Webb**

Inflammatory modification of HDL promotes delivery of oxidized lipids to macrophages

07/01/02 – 06/30/03; \$50,000 (Direct costs \$50,000)

University of Kentucky Medical Center Research Award

P.I.: **N.R. Webb**

Scavenger receptor B-I and remnant lipoprotein metabolism

07/01/00 – 6/30/01; \$15,000 (Direct costs \$15,000)

OTHER CREATIVE ACTIVITY

Issued patents

“Cloning and expression of transforming growth factor $\beta 2$ ” issued June 22, 1993.

“Compositions and methods for detecting and treating atherosclerosis” (U.S. patent number #7,521,198) issued April 21, 2009.