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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Social Security Number:
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

	American Heart Association, Council on Arteriosclerosis, Thrombosis and Vascular Biology
2004-2009	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 ResearchAwards Summit (Salt Lake City, Utah) "Secretory phospholipases and atherosclerosis: Local and systemic effects"
2003	Southeast Lipid Research Conference (Callaway Gardens, GA) "Group V sPLA$_2$: 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 A$_2$ 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 A$_2$ enzymes: A link between LDL and atherosclerosis?

2005	Columbia University "Group V $sPLA_2$: 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 A_2 enzymes: A mechanistic link between LDL and atherosclerosis?
2007	Boehringer Ingelheim Pharmaceuticals, Inc. (Ridgefield, CT) "Secretory Phospholipase A_2 in Atherosclerosis"
2007	Pfizer (Chesterfield, MO) "Secretory Phospholipase A_2 and Atherosclerosis"
2007	University of Cincinnati Obesity Research Center "Secretory phospholipase A_2's and atherosclerosis"
2007	Scientific Sessions (Orlando, FL) "Group X $sPLA_2$ deficiency increases adiposity and adipose tissue inflammation in mice"
2008	Gordon Research Conference on Lipoprotein Metabolism (Waterville Valley, NH) "Group X $sPLA_2$ negatively regulates lipolysis in adipose tissue"
2008	FASEB Research Conference on Phospholipid Metabolism (New Haven, CT) "Group V $sPLA_2$ in atherosclerosis: An update"
2008	Southeast Lipid Research Conference (Callaway Gardens, GA) "Role of Group X $sPLA_2$ 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-ß 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-ß 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 Lusis, 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 Williers, 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 A_2 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 $sPLA_2$ 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 $sPLA_2$ 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 A_2 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 $sPLA_2$-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 $sPLA_2$ 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 A_2 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-derivied 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 A_2. 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 A_2-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 $sPLA_2$ 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 diazepine 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-ß 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 $sPLA_2$ 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 A_2 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 $sPLA_2$ 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 di-leucine 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 A_2 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 A_2-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 A_2 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 A_2. 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 A_2 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 $sPLA_2$ to increase atherogenecity 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 $sPLA_2$ in atherosclerosis. Southeast Lipid Research Conference (Callaway Gardens, GA).

Li, X. and **Webb, N.R**. (2008) Role of Group X secretory phospholipase A_2 in adipocytes. Southeast Lipid Research Conference (Callaway Gardens, GA).

Shridas, P. and **Webb, N.R**. (2008) Group X secretory phospholipase A_2 modulates macrophage inflammatory responses. Southeast Lipid Research Conference (Callaway Gardens, GA).

Shridas, P., Bailey, W. and **Webb, N.R**. (2009) Group X secretory phospholipase A_2 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 A_2 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 A_2 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 $sPLA_2$: 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 $sPLA_2$ 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 $sPLA_2$: 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 A_2 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 $sPLA_2$ 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 β2" issued June 22, 1993.

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