

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Phillips, Michael C.	POSITION TITLE		
eRA COMMONS USER NAME phillipsmc	Professor		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Southampton University, Southampton, England	B.Sc.	1962	Chemistry & Math
Southampton University, Southampton, England	Ph.D.	1965	Physical Chemistry
State University of New York, Buffalo, NY	Post-doc	1965-67	Biophysical Chemistry

A. Positions and Honors**Positions**

1967-1969	Scientist in Biophysics Division, Unilever Research, England
1969-1978	Senior Scientist/Section Manager, Unilever Research, England
1978-1980	Associate Professor of Biochemistry, The Medical College of Pennsylvania
1980-2000	Professor of Biochemistry, The Medical College of Pennsylvania
1984-1991	Director of Graduate Training, Physiology/Biochemistry Dept., Medical College of Penna.
1991-1999	Chair, Dept. of Biochemistry, MCP Hahnemann Univ. (formerly Medical College of Penna.)
2000-	Adjunct Professor of Biochemistry, Drexel University College of Medicine
2000-	Stokes Investigator, The Children's Hospital of Philadelphia
2000-	Research Professor of Pediatrics, University of Pennsylvania

Honors

1976	Doctor of Science Degree, Southampton University
1979	Co-Winner – British United Provident Association “Doctor of the Year”
1984	Lindback Award for “Distinguished Teaching”
1983-1984	Associate Editor, Journal of Lipid Research
1985-1986	Editor-in-Chief, Journal of Lipid Research
1985-2003	Editorial Advisory Board, Journal of Lipid Research
1984-	Editorial Board, Chemistry and Physics of Lipids
1988-1997	Editorial Board, Biochimica et Biophysica Acta
1989-1994	Associate Editor, Lipids
1985-1986	Pathology Research Study Committee, American Heart Association
1985-1986	Arteriosclerosis Specialized Centers of Research (SCOR) Review Committee, NHLBI
1988-1992	Heart Lung & Blood Research Review Committee B, NHLBI
1990-1992	Member at Large, Executive Committee of the Council on Arteriosclerosis, AHA
2000-2002	Gordon Research Conference on Lipoprotein Metabolism, Vice-Chair in 2000; Chair in 2002
2000-2005	Editorial Board, Journal of Biological Chemistry

B. Selected peer-reviewed publications (from over 200).

1. P. Holvoet, K. Peeters, S. Lund-Katz, A. Mertens, P. Verhamme, R. Quarck, D. Stengel, M. Lox, E. Deridder, H. Bernar, M. Nickel, G. Theilmeier, E. Ninio, and M.C. Phillips, “Arg123-Tyr166 Domain of Human Apo A-I is Critical for HDL-mediated Inhibition of Macrophage Homing and Early Atherosclerosis in Mice”, *Arterioscler. Thromb. Vasc. Biol.* **21**: 1977-1983 (2001).
2. K. Gillotte-Taylor, M. Nickel, W.J. Johnson, O.L. Francone, P. Holvoet, S. Lund-Katz, G. H. Rothblat, and M.C. Phillips, “Effects of Enrichment of Fibroblasts with Unesterified Cholesterol on the Efflux of Cellular Lipids to Apolipoprotein A-I”, *J. Biol. Chem.*, **277**: 11811-11820 (2002).
3. P. Acharya, M.L. Segall, M. Zaiou, J. Morrow, K.H. Weisgraber, M.C. Phillips, S. Lund-Katz, J. Snow, “Comparison of the Stabilities and Unfolding Pathways of Human Apolipoprotein E Isoforms by Differential Scanning Calorimetry and Circular Dichroism”, *Biochim. Biophys. Acta*, **1584**: 9-19 (2002).
4. M.L. Segall, P. Dhanasekaran, F. Baldwin, G.M. Anantharamaiah, K.H. Weisgraber, M.C. Phillips, S. Lund-

- Katz, "Influence of apoE Domain Structure and Polymorphism on the Kinetics of Phospholipid Vesicle Solubilization", *J. Lipid Res.*, 43: 1688-1700 (2002).
5. S.T. Thuahnai, S. Lund-Katz, G.M. Anantharamaiah, D.L. Williams, M.C. Phillips, "A Quantitative Analysis of Apolipoprotein Binding to SR-BI: Multiple Binding Sites for Lipid-free and Lipid-associated Apolipoproteins," *J. Lipid Res.*, 44: 1132-1142 (2003).
 6. H. Saito, P. Dhanasekaran, D. Nguyen, F. Baldwin, K.H. Weisgraber, S. Wehrli, M.C. Phillips, S. Lund-Katz, "Characterization of the Heparin Binding Sites in Human Apolipoprotein E," *J. Biol. Chem.*, 278: 14782-14787 (2003).
 7. H. Saito, P. Dhanasekaran, D. Nguyen, P. Holvoet, S. Lund-Katz, M.C. Phillips, "Domain Structure and Lipid Interaction in Human Apolipoproteins A-I and E: A General Model," *J. Biol. Chem.*, 278: 23227-23232 (2003).
 8. H. Saito, P. Dhanasekaran, F. Baldwin, K.H. Weisgraber, M.C. Phillips, S. Lund-Katz, "Effects of Polymorphism on the Lipid Interaction of Human Apolipoprotein E," *J. Biol. Chem.*, 278: 40723-40729 (2003).
 9. L. Liu, A.E. Bortnick, M. Nickel, P. Dhanasekaran, P.V. Subbaiah, S. Lund-Katz, G.H. Rothblat, M.C. Phillips, "Effects of Apolipoprotein A-I on ABCA1-mediated Efflux of Macrophage Phospholipid and Cholesterol: Formation of Nascent HDL Particles," *J. Biol. Chem.*, 278: 42976-42984 (2003).
 10. Y. Peng, W. Akmentin, M.A. Connelly, S. Lund-Katz, M.C. Phillips, D.L. Williams, "Scavenger Receptor BI (SR-BI) Clustered on Microvillar Extensions Suggests that this Plasma Membrane Domain is a Way Station for Cholesterol Trafficking between Cells and High Density Lipoprotein," *Mol. Biol. Cell*, 15: 384-396 (2003).
 11. S.T. Thuahnai, S. Lund-Katz, P. Dhanasekaran, M. de la Llera-Moya, M.A. Connelly, D.L. Williams, G.H. Rothblat, M.C. Phillips, "Scavenger Receptor Class B Type I-mediated Cholesteryl Ester-selective Uptake and Efflux of Unesterified Cholesterol. Influence of High Density Lipoprotein Size and Structure," *J. Biol. Chem.*, 13: 12448-12455 (2004).
 12. V. Narayanaswami, J.N. Maiorano, P. Dhanasekaran, R.O. Ryan, M.C. Phillips, S. Lund-Katz, W.S. Davidson, "Helix Orientation of the Functional Domains in Apolipoprotein E in Discoidal High Density Lipoprotein Particles," *J. Biol. Chem.*, 14: 14273-14279 (2004).
 13. H. Saito, P. Dhanasekaran, D. Nguyen, E. Deridder, P. Holvoet, S. Lund-Katz, M.C. Phillips, "Alpha-helix Formation is Required for High Affinity Binding of Human Apolipoprotein A-I to Lipids," *J. Biol. Chem.*, 279: 20974-20981 (2004).
 14. P. Natarajan, T.M. Forte, B. Chu, M.C. Phillips, J.F. Oram, J.K. Bielicki, "Identification of an Apolipoprotein A-I Structural Element that Mediates Cellular Cholesterol Efflux and Stabilizes ATP Binding Cassette Transporter A1," *J. Biol. Chem.*, 279: 24044-24052 (2004).
 15. Vedhachalam, C., Liu, L., Nickel, M., Dhanasekaran, P., Anantharamaiah, G.M., Lund-Katz, S., Rothblat, G.H., Phillips, M.C. "Influence of ApoA-I Structure on the ABCA1-mediated Efflux of Cellular Lipids", *J. Biol. Chem.* 279: 49931-49939 (2004)
 16. van Bennekum, A., Werder, M., Thuahnai, S.T., Han, C-H., Duong, P., Williams, D.L., Wettstein, P., Schulthess, G., Phillips, M.C., Hauser, H., "Class B Scavenger Receptor-Mediated Intestinal Absorption of Dietary β -Carotene and Cholesterol", *Biochemistry*, 44: 4517-4525 (2005).
 17. Futamura, M., Dhanasekaran, P., Handa, T., Phillips, M.C., Lund-Katz, S., Saito, H. "Two-step Mechanism of Binding of Apolipoprotein E to Heparin: Implications for the Kinetics of Apolipoprotein E-heparan Sulfate Proteoglycans Complex Formation on Cell Surfaces", *J. Biol. Chem.* 280: 5414-5422 (2005)
 18. Tanaka, M., Saito, H., Dhanasekaran, P., Wehrli, S., Handa, T., Lund-Katz, S., Phillips, M.C. "Effects of the Core Lipid on the Energetics of Binding of ApoA-I to Model Lipoprotein Particles of Different Sizes", *Biochemistry*, 44: 10689-10695 (2005)
 19. Tanaka, M., Vedhachalam, C., Sakamoto, T., Dhanasekaran, P., Phillips, M.C., Lund-Katz, S., Saito, H. "Effect of Carboxyl-Terminal Truncation on Structure and Lipid Interaction of Human Apolipoprotein E4", *Biochemistry*, 45: 4240-4247 (2006)
 20. Tanaka, M., Dhanasekaran, P., Nguyen, D., Ohta, S., Lund-Katz, S., Phillips, M.C., Saito, H. "Contributions of the N- and C-Terminal Helical Segments to the Lipid-Free Structure and Lipid Interaction of Apolipoprotein A-I", *Biochemistry* 45: 10351-10358 (2006)
 21. Duong, P.T., Collins, H.L., Nickel, M., Lund-Katz, S., Rothblat, G.H., Phillips, M.C. "Characterization of Nascent HDL Particles and Microparticles Formed by ABCA1-Mediated Efflux of Cellular Lipids to ApoA-I", *J. Lipid Res.* 47: 832-843 (2006)

C. Research Support**Phillips, Michael C.****Ongoing****5-PO1-HL22633 Program Director: Michael C. Phillips, Ph.D., D.Sc.** 07/01/03–06/30/08Agency: National Heart, Lung and Blood Institute
PPG “Cellular and Molecular Biology of Lipoprotein Metabolism”**PPG Project 1 – Phillips, M.C. (Co-Investigator)** 07/01/03–06/30/08Agency: NHLBI
“Cellular Cholesterol Flux and Metabolism”

Project 1 of this Program Project Grant explores the intracellular and extracellular mechanisms by which cellular cholesterol homeostasis is maintained. Particular attention is paid to efflux of cholesterol from cells.

PPG Project 2 – Phillips, M.C. (PI) 07/01/03–06/30/08Agency: NHLBI
“Interactions of Apo A-I with Lipids and Cell Surfaces”

The goal of Project 2 of the Program Project Grant is to understand some of the functions of apo A-I in reverse cholesterol transport by defining the mechanisms by which this protein mediates cholesterol transport at the cell surface.

PPG Administrative Core – Phillips, M.C. (PI) 07/01/03–06/30/08Agency: NHLBI
“Administrative Core”

This Core provides administrative support to the Program Project Grant.

2-RO1-HL056083 – Phillips, M.C. (Co-Investigator)Agency: NHLBI
“Structural Basis of the Interactions of Apolipoprotein E”

The goal of the project is to gain a more complete understanding of the structure of apolipoprotein (apo) E, especially as it relates to its anti-atherogenic properties.

Completed**5-PO1-HL22633 Program Director: Michael C. Phillips, Ph.D., D. Sc.** 07/01/98 – 06/30/03(Project 3 – Cholesterol Metabolism in Model Foam Cells)
NIH/NHLBI

Project 3 of the Program Project Grant aims to define some of the mechanisms controlling cholesterol deposition and mobilization in foam cells, that are characteristic of atherosclerotic plaque.