

Address:

Department of Chemistry and Biochemistry
University of South Carolina
Columbia, SC 29208
Ph: 803-777-6625
FAX: 803-777-9521
E-Mail: JSodetz@mailbox.sc.edu

Education:

1966-70 Knox College, B.A., Chemistry
1970-75 University of Notre Dame, Ph.D., Biochemistry
1975-77 Duke University Medical School, NIH Postdoctoral Fellow, Biochemistry

Academic Positions:

1991- Present Carolina Distinguished Professor of Biochemistry, University of South Carolina
1996-2015 Director of Medical Biochemistry, School of Medicine, University of South Carolina
1988-91 Professor of Biochemistry, University of South Carolina
1983-88 Associate Professor of Biochemistry, University of South Carolina
1978-83 Assistant Professor of Biochemistry, University of South Carolina

Military:

1970-80 U. S. Army Reserve, Medical Service Corps (Captain)

Honors and Awards:

1976-77 NIH NRSA Postdoctoral Fellowship, Duke University Medical School
1982-87 Established Investigator of the American Heart Association, University of South Carolina
1990 Basic Science Research Award, University of South Carolina School of Medicine
1991 Carolina Distinguished Professorship, University of South Carolina
2000 Russell Research Award in Science, Math and Engineering, University of South Carolina
2007 Carolina Trustee Professor Award, University of South Carolina
2010 Elected Fellow, American Association for the Advancement of Science
2011 SC Governor's Award for Excellence in Scientific Research

Professional Society Memberships:

American Society for Biochemistry and Molecular Biology
American Chemical Society
American Association for the Advancement of Science

Research Interests:

Structure, function and molecular genetics of the human pore-forming complement proteins.

Publications:

Peer-reviewed Articles / Book Chapters (prior to USC) -

1. Sodetz, J. M. and Castellino, F. J., "Comparison of Steady and Presteady State Kinetics of Human and Bovine Plasmins", *Biochemistry* **11**, 3167-3171 (1972).

2. Sodetz, J. M., Brockway, W. J. and Castellino, F. J., "The Multiplicity of Rabbit Plasminogen. Physical Characterization", *Biochemistry* **11**, 4451-4458 (1972).
 3. Castellino, F. J., Siefring, G. E., Jr., Sodetz, J. M. and Bretthauer, R. K., "Amino Terminal Amino Acid Sequences and Carbohydrate of the Two Major Forms of Rabbit Plasminogen", *Biochem. Biophys. Res. Comm.* **53**, 845-851 (1973).
 4. Sodetz, J. M., Brockway, W. J., Mann, K. G. and Castellino, F. J., "The Mechanism of Activation of Rabbit Plasminogen by Urokinase Lack of a Preactivation Peptide", *Biochem. Biophys. Res. Comm.* **60**, 729-736 (1974).
 5. Sodetz, J. M. Castellino, F. J., "The Mechanism of Activation of Rabbit Plasminogen by Urokinase", *J. Biol. Chem.* **250**, 3041-3049 (1975).
 6. Castellino, F. J., Sodetz, J. M. and Siefring, G. E., Jr., "Affinity Chromatography Resolution of Plasminogen Isozymes," *Isozymes*, C. L. Markert, Ed., Academic Press, New York, 1975, Vol.I, pp.245-258.
 7. Violand, B. N., Sodetz, J. M. and Castellino, F. J., "The Effect of ϵ -Aminocaproic Acid on the Gross Conformation of Plasminogen and Plasmin", *Arch. Biochem. Biophys.* **170**, 300-305 (1975).
 8. Sodetz, J. M. and Castellino, F. J., "A Comparison of Mechanisms of Activation of Rabbit Plasminogen Isozymes by Urokinase", *Proteases and Biological Control*, E. Reich, D. B. Rifkin and E. Shaw, Eds., Cold Spring Harbor Conferences on Cell Proliferation, Vol. II, Cold Spring Harbor Laboratory, New York, 1975, pp. 311-324.
 9. Castellino, F. J., Schick, L. A., Brockway, W. J. and Sodetz, J. M., "The Activation and Inhibition of Fibrinolysis", *Lipids, Lipoproteins, and Drugs*, D. Kritchevsky, R. Paoletti and W. L. Holmes, Eds., Plenum Publishing Corp., New York, 1975, pp. 233-243.
 10. Castellino, F. J., Sodetz, J. M., Brockway, W. J. and Siefring, G. E., Jr., "Streptokinase", *Methods Enzymol.*, L. Lorand, Ed., Academic Press, New York, 1975, Vol. 45, Part B, pp. 244-257.
 11. Castellino, F. J. and Sodetz, J. M., "Rabbit Plasminogen and Plasmin Isozymes", *Methods Enzymol.*, L. Lorand, Ed., Academic Press, New York, 1976, Vol. 45, Part B, pp. 273-286.
 12. Sodetz, J. M., Violand, B. N. and Castellino, F. J., "A Kinetic Characterization of the Rabbit Plasmin Isozymes", *Arch. Biochem. Biophys.* **174**, 209-215 (1976).
 13. Sodetz, J. M., Pizzo, S. V. and McKee, P. A., "Relationship of Sialic Acid to Function and *In Vivo* Survival of Human Factor VIII/von Willebrand Factor Protein", *J. Biol. Chem.*, **252**, 5538-5546(1977).
 14. Sodetz, J. M., Paulson, J. C., Pizzo, S. V. and McKee, P. A., "Carbohydrate on Human Factor VIII/von Willebrand Factor: Impairment of Function by Removal of Specific Galactose Residues", *J. Biol. Chem.* **253**, 7202-7206 (1978).
 15. Sodetz, J. M., Paulson, J. C. and McKee, P. A., "Carbohydrate Composition and Identification of Blood Group A, B, and H Oligosaccharide Structures on Human Factor VIII/von Willebrand Factor", *J. Biol. Chem.* **254**, 10754-10760 (1979).
- Peer-reviewed Articles (USC) -**
16. Monahan, J. B. and Sodetz, J. M., "Identification of Human Cohn Fraction III as a Useful Source for the Simultaneous Purification of FIX and FX Zymogens", *Thromb. Res.* **19**, 743-755 (1980).
 17. Monahan, J. B. and Sodetz, J. M., "Binding of the Eighth Component of Human Complement to the Soluble Cytolytic Complex is Mediated by Its Beta Subunit", *J. Biol. Chem.* **255**, 10579-10582 (1980).

18. Steckel, E. W., York, R. G., Monahan, J. B. and Sodetz, J. M., "The Eighth Component of Human Complement: Purification and Physicochemical Characterization of Its Unusual Subunit Structure", *J. Biol. Chem.* **255**, 11997-12005 (1980).
19. Monahan, J. B. and Sodetz, J. M., "Role of the Beta Subunit in Interaction of the Eighth Component of Human Complement with the Membrane-Bound Cytolytic Complex", *J. Biol. Chem.* **256**, 3258-3262 (1981).
20. Pickering, R. J., Rynes, R. I., Lo Cascio, N., Monahan, J. B. and Sodetz, J. M., "Identification of the α - γ Subunit of the Eighth Component of Complement (C8) in a Patient with Systemic Lupus Erythematosus and Absent C8 Activity: Patient and Family Studies", *Clin. Immunol. Immunopath.* **23**, 323-334 (1982).
21. Steckel, E. W., Welbaum, B. E. and Sodetz, J. M., "Evidence of Direct Insertion of Terminal Complement Proteins Into Cell Membrane Bilayers During Cytolysis: Labeling by a Photosensitive Membrane Probe Reveals a Major Role for the Eighth and Ninth Components", *J. Biol. Chem.* **258**, 4318-4324 (1983).
22. Monahan, J. B., Stewart, J. L. and Sodetz, J. M., "Studies of the Association of the Eighth and Ninth Components of Human Complement Within the Membrane-Bound Cytolytic Complex", *J. Biol. Chem.* **258**, 5056-5062 (1983).
23. Brickner, A. and Sodetz, J. M., "Function of Subunits Within the Eighth Component of Human Complement: Selective Removal of the γ Chain Reveals It Has No Direct Role in Cytolysis", *Biochemistry* **23**, 832-837 (1984).
24. Stewart, J. L., Monahan, J. B., Brickner, A. and Sodetz, J. M., "Measurement of the Ratio of the Eighth and Ninth Components of Human Complement on Complement-Lysed Membranes", *Biochemistry* **23**, 4016-4022 (1984).
25. Rao, A. G. and Sodetz, J. M., "Purification of Functional Subunits of the Eighth Component of Human Complement Under Non-Denaturing Conditions", *Complement* **1**, 182-186 (1984).
26. Stewart, J. L. and Sodetz, J. M., "Analysis of the Specific Association of the Eighth and Ninth Components of Human Complement: Identification of a Direct Role for the α Subunit of C8", *Biochemistry* **24**, 4598-4602 (1985).
27. Brickner, A. and Sodetz, J. M., "Functional Domains of the α Subunit of the Eighth Component of Human Complement: Identification and Characterization of a Distinct Binding Site for the γ Chain", *Biochemistry* **24**, 4603-4607 (1985).
28. Rao, A. G., Howard, O. M. Z., Ng, S. C., Whitehead, A. S., Colten, H. R. and Sodetz, J. M., "cDNA and Derived Amino Acid Sequence of the α Subunit of Human C8: Evidence for the Existence of a Separate α Subunit mRNA", *Biochemistry* **26**, 3556-3564 (1987).
29. Howard, O. M. Z., Rao, A. G. and Sodetz, J. M., "cDNA and Derived Amino Acid Sequence of the β Subunit of Human C8: Identification of a Close Structural and Ancestral Relationship to the α Subunit and C9", *Biochemistry*, **26**, 3565-3570 (1987).
30. Ng, S. C., Rao, A. G., Howard, O. M. Z., and Sodetz, J. M., "The Eighth Component of Human Complement: Evidence That it is an Oligomeric Serum Protein Assembled from Products of Three Different Genes", *Biochemistry* **26**, 5229-5233 (1987).
31. Stewart, J. L., Kolb, W. P. and Sodetz, J. M., "Evidence That C5b Recognizes and Mediates C8 Incorporation Into the Cytolytic Complex of Complement", *J. Immunol.* **139**, 1960-1964 (1987).
32. Ng, S. C. and Sodetz, J. M., "Biosynthesis of the Eighth Component of Complement by Hepatocytes: Differential Expression and Intracellular Association of the α - γ and β Subunits", *J. Immunol.* **139**, 3021-3027 (1987).

33. Kaufman, K., Snider, J. V., Spurr, N. K., Schwartz, C. E. and Sodetz, J. M., "Chromosomal Assignment of Genes Encoding the α , β and γ Chains of Human Complement Protein C8. Identification of a Close Physical Linkage Between the α and β Loci", *Genomics* **5**, 475-480 (1989).
34. Herrmann, D., Sodetz, J. M., Rittner, C. and Schneider, P. M., "DNA Polymorphism of the Human Complement C8 β Gene: Formal Genetics and Intragenic Localization", *Immunogenetics*, **30**, 291-295 (1989).
35. Rogde, S., Mevag, B., Teisberg, P., Olaisen, B. and Sodetz, J. M., "A BamH1 RFLP of the C8 β Gene", *Nucleic Acids Res.* **17**, 6760 (1989).
36. Davé, S. J. and Sodetz, J. M. "Regulation of the Membrane Attack Complex of Complement: Evidence that C8 γ is not the Target of Homologous Restriction Factors", *J. Immunol.* **144**, 3087-3090 (1990).
37. Snider, J. V., Kaufman, K. M. and Sodetz, J. M., "Chromosomal Assignment and Physical Linkage of the Human C8 Loci: Implications Regarding C8 Polymorphisms and Deficiencies", *Complement Inflamm.* **7**, 298-301 (1990).
38. Tedesco, F., Roncelli, L., Petersen, B. H., Agnello, B. and Sodetz, J. M., "Two Distinct Abnormalities in Patients with C8 α - γ Deficiency: Low Level of C8 β Chain and Presence of Dysfunctional C8 α - γ Subunit", *J. Clin. Invest.* **86**, 884-888 (1990).
39. Komatsu, M., Yamamoto, K.-I, Mikami, H., and Sodetz, J. M., "Genetic Deficiency of Complement Component C8 in the Rabbit: Evidence of a Translational Defect in Expression of the α - γ Subunit", *Biochem. Genetics* **29**, 271-274 (1991).
40. Rogde, S., Olaisen, B., Teisberg, P. and Sodetz, J. M., "A BamH1 RFLP of the C8A Gene", *Nucleic Acids Res.* **19**, 3762 (1991).
41. Theriault, A., Boyd, E., Whaley, K., Sodetz, J. M. and Connor, J. M., "Regional Chromosomal Assignment of Genes Encoding the α and β Subunits of Human Complement Protein C8 to 1p32", *Hum. Genet.* **88**, 703-704 (1992).
42. White, R. V., Kaufman, K. M., Letson, C. S., Platteborze, P. L. and Sodetz, J. M., "Characterization of Rabbit Complement Component C8: Evidence for the Species-Selective Recognition of C8 α by Homologous Restriction Factor (CD59)", *J. Immunol.* **152**, 2501-2508 (1994).
43. Kaufman, K. M. and Sodetz, J. M., "Genomic Structure of the Human Complement Protein C8 γ : Homology to the Lipocalin Gene Family", *Biochemistry* **33**, 5162-5166 (1994).
44. Michelotti, G. A., Snider, J. V. and Sodetz, J. M., "Genomic Organization of Human Complement Protein C8 α and Further Examination of Its Linkage to C8 β ," *Hum. Genet.* **95**, 513-518 (1995).
45. Hüsler, T., Lockert, D. H., Kaufman, K. M., Sodetz, J. M. and Sims, P. J., "Chimeras of Human Complement C9 Reveal the Site Recognized by Complement Regulatory Protein CD59," *J. Biol. Chem.* **270**, 3483-3486 (1995).
46. Zhang, L., Rittner, C., Sodetz, J. M., Schneider, P. M. and Kaufmann, T., "The Eighth Component of Human Complement: Molecular Basis of C8A (C81) Polymorphism," *Hum. Genet.* **96**, 281-284 (1995).
47. Lockert, D. H., Kaufman, K. M., Chang, C-P., Hüsler, T., Sodetz, J. M. and Sims, P. J., "Identity of the Segment of Human Complement C8 Recognized by Complement Regulatory Protein CD59," *J. Biol. Chem.* **270**, 19723-19728 (1995).
48. Platteborze, P. L., Hobart, M. J. and Sodetz, J. M., "Physical Linkage and Orientation of the Human Complement C8 α and C8 β Genes on Chromosome 1p32," *Hum. Genet.* **98**, 443-446 (1996).
49. Letson, C. S., Kaufman, K. M. and Sodetz, J. M., "In Vitro Expression of the Beta Subunit of Human Complement Component C8," *Mol. Immunol.* **33**, 1295-1300 (1996).

50. Schreck, S.F., Plumb, M.E., Platteborze, P. L., Kaufman, K. M., Michelotti, G.A., Letson, C.S. and Sodetz, J.M., "Expression and Characterization of Recombinant Subunits of Human Complement Component C8: Further Analysis of the Function of C8 α and C8 γ ," *J. Immunol.* **161**, 311-318 (1998).
51. Plumb, M.E., Scibek, J.J., Barber, T.D., Dunlap, R.J., Platteborze, P.L. and Sodetz, J.M., " Chimeric and Truncated Forms of Human Complement Protein C8 α Reveal Binding Sites for C8 β and C8 γ within the Membrane Attack Complex/Perforin Region," *Biochemistry* **38**, 8478-8484 (1999) .
52. Plumb, M.E and Sodetz, J.M., " An Indel within the C8 α Subunit of Human Complement C8 Mediates Intracellular Binding of C8 γ and Formation of C8 α - γ ," *Biochemistry* **39**, 13078-13083 (2000) .
53. Ortlund, E., Parker, C.L., Schreck, S.F., Ginell, S., Minor, W., Sodetz, J.M. and Lebioda, L. "Crystal Structure of Human Complement Protein C8 γ at 1.2Å Resolution Reveals a Lipocalin Fold and a Distinct Ligand Binding Site," *Biochemistry* **41**, 7030-7037 (2002).
54. Parker C.L. and Sodetz, J.M., "Role of the Human C8 Subunits in Complement-Mediated Bacterial Killing: Evidence that C8 γ is Not Essential," *Mol. Immunol.* **39**, 453-458 (2002).
55. Musingarimi, P. Plumb, M.E. and Sodetz, J.M., "Interaction between the C8 α - γ and C8 β Subunits of Human Complement C8: Role of the C8 β N-Terminal Thrombospondin Type 1 Module and Membrane Attack Complex/Perforin Domain," *Biochemistry* **41**, 11255-11260 (2002).
56. Scibek, J.J., Plumb, M.E. and Sodetz, J.M., "Binding of Human Complement C8 to C9: Role of the N-Terminal Modules in the C8 α Subunit," *Biochemistry* **41**, 14546-14551 (2002).
57. Slade, D.J., Chiswell, B and Sodetz, J.M., "Functional Studies of the MACPF Domain of Human Complement Protein C8 α Reveal Sites for Simultaneous Binding of C8 β , C8 γ and C9" , *Biochemistry* **45**, 5290-5296 (2006).
58. Chiswell, B., Slade, D.J. and Sodetz, J.M., "Binding of the Lipocalin C8 γ to Human Complement Protein C8 α is Mediated by Loops Located at the Entrance to the C8 γ Ligand Binding Site", *Biochim. Biophys. Acta* **1764**, 1518-1524 (2006).
59. Brannen, C.L. and Sodetz, J.M., ""Incorporation of Human Complement C8 into the Membrane Attack Complex is Mediated by a Binding Site Located within the C8 β MACPF Domain", *Mol. Immunol.* **44**, 960-965 (2007).
60. Chiswell, B., Lovelace, L.L., Brannen, C., Ortlund, E.A., Lebioda, L. and Sodetz, J.M., "Structural Features of the Ligand Binding Site on Human Complement Protein C8 γ : A Member of the Lipocalin Family", *Biochim. Biophys. Acta* **1774**, 637-644 (2007).
61. Lovelace, L.L., Chiswell, B., Slade, D.J., Sodetz, J.M. and Lebioda, L. "Crystal Structure of Complement Protein C8 γ in Complex with a Peptide Containing the C8 γ Binding Site on C8 α : Implications for C8 γ Ligand Binding", *Mol. Immunol.* **45**, 750-756 (2008).
62. Slade, D.J., Lovelace, L.L., Chruszcz, M., Minor, W., Lebioda, L. and Sodetz, J.M., "Crystal Structure of the MACPF Domain of Human Complement Protein C8 α in Complex with the C8 γ Subunit", *J. Mol. Biol.* **379**, 331-342 (2008).
63. Lovelace, L.L., Cooper, C.L., Sodetz, J.M. and Lebioda, L., "Structure of Human C8 Protein Provides Mechanistic Insight into Membrane Pore Formation by Complement", *J. Biol. Chem.*, **286**, 17585-17592 (2011).
64. Weiland, M., Qian, Y. and Sodetz, J.M., "Membrane Pore Formation by Human Complement: Functional Importance of the Transmembrane β -hairpin (TMH) Segments of C8 α and C9", *Mol. Immunol.* **57**, 310-316 (2014).

Invited Reviews / Book Chapters (USC) –

65. Sodetz, J. M., "Structure and Function of C8 in the Membrane Attack Sequence of Complement." In *Cytotoxic Effector Mechanisms: Lymphocytes, Complement and Bacteria*, Podack, E., ed., *Current Topics in Microbiology and Immunology*, Vol 140, Springer-Verlag, Berlin, (1988) pp. 19-31.
66. Esser, A. F. and Sodetz, J. M., "The Membrane Attack Complex Proteins C5b-6, C7, C8 and C9 of Human Complement," *Methods Enzymol.*, G. DiSabato, Ed., Academic Press, New York, (1988) Vol. 162, pp. 551-578.
67. Sodetz, J.M., "C8 Complement Protein." In *Human Protein Data*, Haeberli, A., ed., Wiley-VCH, Verlag GmbH, Weinheim, (1997).
68. Plumb, M.E. and Sodetz, J.M., "Proteins of the Membrane Attack Complex." In *The Human Complement System in Health and Disease*, Volanakis, J.E. and Frank, M.M., eds., Marcel Dekker, New York, (1998) pp. 119-148.
69. Tedesco, F., Plumb, M.E. and Sodetz, J.M., "C8." In *The Complement FactsBook*, Morley, B. J. and Walport, M. J., eds., Academic Press, London, (1999) pp. 123-130
70. Schreck, S. F., Parker, C. P., Plumb, M. E. and Sodetz, J. M., "Human Complement Protein C8 γ ." In *BBA-Protein Structure and Molecular Enzymology* (Special Issue on 'Lipocalins'), Åkerström, B., Flower, D. and Salier, J-P., eds., *Biochim. Biophys. Acta* **1482**, 199-208 (2000).
71. Sodetz, J.M and Plumb, M.E. "Complement: Terminal Pathway". In *Encyclopedia of Life Sciences*, John Wiley & Sons, Ltd: Chicester, <http://www.els.net/>, (2005) pp. 1-8.
72. Lebioda, L. and Sodetz, J.M., "Complement Protein C8." In *Structural Biology of the Complement System*, Morikis, D. and Lambris, J.D., eds., CRC Press, Boca Raton, FL, (2005) pp. 233-250.
73. Dijk, W.V., DoCarmo, S., Rassart, E., Dahlback, B. and Sodetz, J.M., "The Plasma Lipocalins α 1-acid glycoprotein, Apolipoprotein D, Apolipoprotein M and Complement Protein C8 γ ." In *Lipocalins*, Åkerström, B., Borregaard, N., Flower, D. and Salier, J-P, eds., Landes Bioscience/Eurekah, Georgetown, TX, (2006) pp. 140-166.

External Research Grants:

As Principal Investigator -

1. "Interaction of Clotting Factors VIIIvWF, IXa and X," NSF, 7/1/79-6/30/82, \$68,000.
2. "Blood Coagulation and Complement Medicated Cytolysis," S.C. Heart Association, 7/1/80-6/30/81, \$5,300.
3. "Mechanism of Cell Membrane Lysis by Human Complement Proteins," American Cancer Society, 1/1/81-12/31/82, \$92,000.
4. "Established Investigator Award," American Heart Association, 7/1/82-6/30/87, \$180,000.
5. "Structure and Function of Terminal Complement Proteins," NIH, 7/1/82-6/30/85, \$305,000.
6. "Structure and Function of Terminal Complement Proteins," NIH, 9/1/85-8/31/89, \$481,000.
7. "Biomedical Research Support Grant," NIH, 1/1/86-9/30/93, \$525,000.
8. "Purchase of a Diffractometer, Gel Apparatus, Incubator and HPLC Detector," NIH, 7/1/87-6/30/88, \$35,095.
9. "Purchase of an Amino Acid Analyzer and Sequencer," NIH, 4/1/88-3/31/89, \$170,000.
10. "NIH Small Instrumentation Program," NIH, 6/1/88-5/31/89, \$33,842.
11. "Acquisition of a High Pressure Liquid Chromatograph," NSF, 1/1/89-6/30/91, \$35,000.
12. "NIH Small Instrumentation Program," NIH, 7/15/89-6/30/90, \$31,614.
13. "Structure and Function of Terminal Complement Proteins," NIH, 9/1/89-8/31/94, \$736,000.
14. "NIH Small Instrumentation Program," NIH, 8/1/90-7/31/91, \$27,077.
15. "NIH Small Instrumentation Program," NIH, 8/1/91-7/31/92, \$23,275.
16. "Structure and Function of Terminal Complement Proteins," NIH, 9/1/94-8/31/98, \$762,000.
17. "Structure and Function of Terminal Complement Proteins," NIH, 9/1/98-5/31/03, \$909,017.
18. "Structural Analysis of the Membrane Binding Domain of Human Complement Protein C8 α ," S.C. EPSCoR/NIH BRIN Collaborative Research Program, 5/15/02- 11/15/03, \$70,988.

19. "Structural Analysis of the Membrane Binding Domain of Human Complement Protein C8 α ", SC EPSCoR/NIH BRIN Collaborative Research Program, 11/1/03-6/30/04, \$30,000
20. "Structure and Function of Terminal Complement Proteins," NIH, 6/1/03-8/31/07, \$1,085,629.
21. "Structure and Function of Terminal Complement Proteins," NIH, 9/1/07-8/31/12, \$1,185,944.

Professional Activities:

Grant Review Panels -

University of South Carolina Institutional Review Committee for the NIH Biomedical Research Support Grant Program, 1981-93 (Chair and PI of USC/NIH BRSG Grant, 1986-93).
South Carolina Heart Association Research Grant Review Panel, 1986-88.
NSF Advisory Panel for Biological Research Centers Program, 1987.
NSF Advisory Panel for Biological Facilities Centers Program, 1987-89.
NIH Special Allergy and Immunology Study Section, 1986.
NIH Special Immunological Sciences Study Section, 1988, 1989.
NIH Program Project Site Visit Panel: NIH/NIAMS, 1990.
NIH Academic Research Enhancement Awards (AREA) Study Section, 1992.
NIH Allergy and Immunology Study Section (Member), 1991-95.
NIH Cellular and Molecular Immunology Study Section, (Ad hoc Member), 2004-06
NIH Innate Immunity and Inflammation Study Section, (Ad hoc Member), 2006
NIH Immunology Special Emphasis Panel (Ad hoc Member), 2007-09

Grant Proposals Reviewed -

American Cancer Society
American Heart Association
Medical Research Council (UK)
National Institutes of Health
National Science Foundation
The Israel Science Foundation
South Carolina Heart Association
Veterans Administration
Wellcome Trust (UK)

Editorial Boards -

Associate Editor, Journal of Immunology, 1991-95

Manuscripts Reviewed -

Archives of Biochemistry and Biophysics
Biochemistry
Biophysical Journal
Cellular Microbiology
Cell Reports
Clinical Immunology and Immunopathology
Developmental and Comparative Immunology
EMBO Reports
Gene
Human Genetics
Journal of Biological Chemistry
Journal of Clinical Investigation
Journal of Immunology
Journal of Molecular Biology
Molecular Immunology
Proceedings of the National Academy of Sciences USA
Science
Thrombosis Research
Trends in Biochemical Sciences

Teaching Experience (USC):

Undergraduate Courses (average enrollment) -

Chem 101	Fundamental Chemistry (Allied Health Majors) (175)
Chem 102	Intro Organic & Biochemistry (Allied Health Majors) (150)
Chem 499	Undergraduate Research (1)
Chem 550	Principles of Biochemistry (110)
Chem 555	Principles of Biochemistry (60)

Graduate Courses -

Chem 682	Biological Chemistry (20)
Chem 701	Seminar in Biochemistry (10)
Chem 753	Enzymology and Protein Chemistry (25)
Chem 755	Biomedical Biochemistry II (5)
Chem 759	Topics in Protein Chemistry (10)

School of Medicine Courses -

Chem D650	Medical Biochemistry I (Medical Students) (100)
Chem D651	Medical Biochemistry II (Medical Students) (90)
BMSC 754	Medical Biochemistry II (Biomedical Sciences Graduate Students) (10)
Chem D650-651	Medical Biochemistry I and II (100), Course Director, 1996-present

Ph.D. Dissertations -

1. Joseph B. Monahan (1983) "Structural and Functional Studies of the Interaction of the Eighth Component of Human Complement with the Cytolytic Complex."
2. Eric W. Steckel (1983) "The Eighth Component of Human Complement: Identification of a Direct Role for the Alpha Subunit in Complement-Mediated Cytolysis."
3. Simon C. Ng (1985) "Biosynthesis of the Eighth Component of Complement in Hepatocyte Culture."
4. Avram Brickner (1986) "Characterization of Functional Domains on the Eighth Component of Human Complement."
5. James L. Stewart (1986) "Interactions of the Eighth Component of Human Complement Within the Cytolytic Complex."
6. O. M. Zack Howard (1987) "Determination of the Primary Structure of the β Subunit of Human Complement Protein C8."
7. James V. Snider (1990) "Isolation and Characterization of the Human C8 γ Gene."
8. Steven L. Lambert (1990) "Characterization of Functional Domains on the β Subunit of the Eighth Component of Human Complement."
9. Sheela J. Davé (1990) "Regulatory Aspects of C8 Function."
10. Kenneth M. Kaufman (1991) "The Eighth Component of Complement (C8): Characterization of the Gene Encoding the C8 γ Subunit in Humans and Analysis of C8 α - γ Deficiency in a Rabbit Model System."
11. Gregory A. Michelotti (1992) "The Eighth Component of Human Complement (C8): Characterization of the Gene Encoding the C8 α Subunit and Analysis of its Linkage to C8 β ."
12. Peter L. Platteborze (1995) "Structure, Expression and Genetic Linkage of Subunits of Complement Component C8."
13. Carole S. Letson (1996) "Expression and Characterization of a Recombinant Form of the Beta Subunit of Human Complement Component C8."
14. Robert J. Dunlap (1997) "Design and Expression of Mutant Recombinant Forms of the Human Complement Component C8 Subunits."
15. Robert V. White (1997) "Role of C8 γ in the Species-Selective Recognition of Human C8 by the Complement Regulatory Protein CD59."
16. Tonya D. Barber (1997) "Mapping Functional Domains Within the Alpha and Beta Subunits of Human Complement Component C8."
17. Mnason E. Plumb (1998) "Expression and Characterization of Recombinant Forms of Human C8: Localization of Binding Sites within the C8 α Subunit."
18. Steven F. Schreck (1998) "Characterization of Recombinant Forms of Human Complement Component C8: Further Analysis of the Function of the C8 α and C8 γ Subunits."

19. Jeffery J. Scibek (2000) "Expression of Recombinant Forms of the C8 α Subunit of Human Complement Component C8: Analysis of Binding Sites for C8 β and C9."
20. Chasta L. Parker (2001) "Analysis of the Structure and Function of the C8 Gamma Subunit of Human Complement Component C8."
21. Primrose Musingarimi (2002) "Structure-Function Relationships Within the C8 β Subunit of Human Complement Component C8: Identification of Segments Involved in Interactions with C8 α - γ ."
22. Brian Chiswell (2005) "Human Complement Protein C8 γ : Characterization of the Ligand Binding Pocket and Localization of the C8 α Binding Site."
23. Charity Brannen (2005) "Ligand Binding Properties of Human Complement Protein C8 γ and Expression and Characterization of Recombinant Forms of C8 β ."
24. Daniel J. Slade (2007) "Structural and Functional Characterization of the C8 α Subunit of Human Complement C8."
25. Mitch H. Weiland (2009) "Molecular Interactions of Human C9: The Pore Forming Protein of Complement "
26. Christopher L. Cooper (2010) "Human Complement Protein C8: Crystal Structure and Analysis of Binding Interactions."
27. Yu Qian (2011) "A Study of the Role of the Human Complement C8 α and C9 MACPF Domains in Membrane Pore Formation"

M.S. Theses -

1. Michael D. Mitchell (1982) "Studies on the Interaction of Human FVIII/von Willebrand Factor Protein with Human FIX and FX and Their Activation Products."
2. Barbara E. Welbaum (1983) "Topography of the SC5b-9 Complex of Human Complement: Use of A Photolabile Crosslinking Reagent to Probe the Spatial Arrangement of C9."
3. John A. Williamson (1989) "Investigation of the Binding Domains on the Eighth Component of Human Complement."
4. G. Ronald Jenkins (1989) "Studies of the Human C8 α and C8 β Genes."
5. Carole S. Letson (1991) "A Study of C8 α - γ Deficiency in the Rabbit: Isolation and Characterization of cDNA Clones Encoding the Normal and Deficient C8 γ Subunit."
6. Mnason E. Plumb (1994) "Expression of the Modular Domains of the Alpha Subunit of Human Complement Component C8."
7. Stephen Nigro (1996) "Preparation of Mutant Forms of Recombinant Human C8 β ."
8. Yuan Zhang (2001) "Mapping Binding sites in the C8 β Subunit of Human Complement Component C8."
9. Nikil Swamy (2009) "Binding Studies of Human Complement Protein C8 γ ."
10. Megan S. Damour (2010) "Components of the Membrane Attack Complex(MAC) of Human Complement: Functional Studies of their MACPF Domains."

Postdoctoral Fellows -

- A. Gururaj Rao (1983-87)
- Simon C. Ng (1987)
- Sheela J. Davé (1990-91)
- Kenneth M. Kaufman (1991-94)
- Elizabeth Summer (1995-96)
- Beate Scheurer (1997-1998)
- Steven F. Schreck (1998-99)
- Mnason E. Plumb (1998-01)
- Jennifer Block (2002-03)
- Daniel J Slade (2007-08)
- Mitch H. Weiland (2010-11)

University Service:

Departmental -

1. Executive Committee
2. Graduate Student Recruiting and Admissions Committee

3. Tenure and Promotions Committee (Chair)
4. Academic Affairs Committee
5. Search Committees - Physical Chemist
6. Search Committee - Biochemist (6 years)
7. Seminar Committee
8. Peer Review of Teaching Committee
9. Bouknight Scholarship Committee
10. Regional Campuses Committee
11. Stockroom Management Committee
12. Library Committee
13. Ad hoc Department Development Committee
14. Ad hoc Royalties Policy Committee
15. Ad hoc Committee on Scientific Misconduct
16. Ad hoc Committee to Develop Post-Tenure Review Policies and Procedures
17. Advisor, Medical Technology Program
18. Ph.D. Advisory Committees

College of Science and Mathematics -

1. Organizing Committee & Advisory Board, Institute for Biological Research and Technology (1987-96)
2. Academic Responsibilities Committee (Chair)
3. Search Committee - Chair of the Dept of Biological Sciences (Chair)
4. Search Committee - Chair of the Dept of Chemistry & Biochemistry
5. Search Committee - Director of Nanoscience Center (2 years)
6. Dean's Advisory Committee (Ad hoc member)
7. Review Committee for SC Centers of Economic Excellence Proposals
8. Ad hoc Committee for Medical Technology Curriculum Development
9. Medical Technology Program Advisory Committee
10. Ph.D. Advisory Committees (Dept. of Biological Sciences; Marine Science Program)

College of Arts and Sciences -

1. Search Committee - Associate Dean for Research and Graduate Education
2. Five-Year Review Committee - Dean, College of Arts & Sciences

School of Medicine -

1. Director of Medical Biochemistry (1996-2015)
2. Course Director, Medical Biochemistry I & II (1996-2015)
3. Dean's Executive Committee
4. Basic Sciences Advisory Committee
5. Curriculum Committee
6. Student Promotions Committee
7. Committee on Independent Learning
8. Ad hoc Committee on Basic Science Reorganization
9. Search Committee - Associate Dean for Basic Sciences
10. Search Committee - Associate Dean for Medical Education and Academic Affairs
11. Search Committee - Chair, Dept of Biomedical Sciences, Greenville Campus
12. Faculty Research Award Committee
13. LCME Institutional Self-Study Task Force Committee
14. Facilities and Major Equipment Committee
15. Ad hoc Curriculum Study Group for Genetics
16. Ad hoc reviewer, Research Advisory Committee
17. Ph.D. Advisory Committees (Dept. of Pathology; Dept. of Microbiology & Immunology)

University -

1. Committee on Tenure and Promotion (elected, 1996-99); Chair, Nominations Committee (1999).
2. Faculty Grievance Committee
3. Russell Research Award Committee - Science, Math & Engineering

4. NIH Biomedical Research Support Grant Review Committee (Chair and PI of the NIH BRSB Grant 1986-93).
5. Director, Protein Microanalysis Core Facility, Institute for Biological Research and Technology (1987-96).
6. Faculty Senate
7. Health Professions Advisory Committee
8. Arts and Sciences Review Committee
9. Research Advisory Committee
10. Committee for the Review of Institutes, Bureaus and Centers
11. USC Chapter of Sigma Xi, The Scientific Research Society: Nominations Committee (Chair); Selection Committee-Graduate Student Research Award; Executive Committee; Vice President (1985); President (1986).