

SIDNEY (WALLY) WALDO WHITEHEART

Business Address:

Department of Molecular and Cellular Biochemistry
University of Kentucky College of Medicine
741 South Limestone BBSRB Room B261
Lexington, KY 40536-0509
Office: (859)-257-4882 Laboratory: (859) 323-1065
Fax: (859)-257-2283
Email: whitehe@uky.edu

Home Address:

3434 Fleetwood Drive
Lexington, KY 40502
(859)-269-3300
Cell: (859)-327-8384

Professional Experience:

- Mar. 1994- Present UNIVERSITY OF KENTUCKY COLLEGE OF MEDICINE
Department of Molecular and Cellular Biochemistry
Position: Assistant Professor 1994-Jan. 2000
Associate Professor 2000-July 2005
Professor 2005-Present
Graduate Faculty in the Clinical Sciences Program 2006-Present
- Mar. 1991- Mar. 1994 SLOAN-KETTERING INSTITUTE
Program of Cellular Biochemistry and Biophysics
Advisor: Dr. James E. Rothman
Position: Postdoctoral Fellow supported by The Jane Coffin Childs Memorial Fund for Medical Research and Sloan-Kettering Institute
- Jan. 1990-Mar. 1991 PRINCETON UNIVERSITY
Department of Biology
Advisor: Dr. James E. Rothman
Position: Postdoctoral Fellow supported by The Jane Coffin Childs Memorial Fund for Medical Research
- Aug. 1989-Jan. 1990 MERCK, SHARP, AND DOHME RESEARCH LABORATORIES
West Point, Pennsylvania
Department of Pharmacology
Supervisor: Dr. Robert Stein
Position: Research Biochemist
- Jun. 1983-Aug. 1989 THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE
Department of Biological Chemistry
Advisor: Dr. Gerald W. Hart
Position: Graduate Student
- Summers 1979-1982 BOWMAN GRAY SCHOOL OF MEDICINE
Winston-Salem, North Carolina
Department of Immunology and Microbiology
Supervisor: Dr. Samuel H. Love
Position: Laboratory Technician
- Education:**
1983-1989 The Johns Hopkins University School of Medicine
Baltimore, Maryland
Ph.D., Biological Chemistry (1989)
- 1979-1983 Emory University
Atlanta, Georgia
B.A., Chemistry (1983)
B.S., Biology (1983)

Professional Societies and Awards:

Fellow of The Jane Coffin Childs Memorial Fund for Medical Research, 1990-1993
 Member of The American Society for Cell Biology
 Member of The American Society for Biochemistry and Molecular Biology
 Member of American Association for the Advancement of Science
 Member of American Heart Association Scientific Council (Thrombosis)
 Designated as an AHA-Sanofi Winthrop Grant-in-Aid Awardee, 1995
 University of Kentucky Faculty Research Award 1999
 University of Kentucky Nominee for Howard Hughes Medical Institute Assistant Investigator Competition 1999
 Editorial Board of The Journal of Biological Chemistry 2001-2006, 2008-2013
 Vice-Chair Southeast/Ohio Valley AHA Affiliate Peer Review Committee 2001, 2002
 Chair Southeast/Ohio Valley AHA Affiliate Peer Review Committee 2003, 2004
 University of Kentucky Alumni Association Great Teacher Award 2006
 Co-Chair AHA Region II Thrombosis Study Group 2009

Grant Support:**PAST**

Small Research Grant from The University of Kentucky Research Fund, 1994	\$ 15,000
The University of Kentucky Research Fund Major Equipment Award, 1994	\$3,150
Research or Clinical Investigation Grant from the American Cancer Society, 1995-1996 "Role of NSF in Cellular Secretion: A Molecular Study" P.I.	\$185,000
Research or Clinical Investigation Grant from the American Cancer Society, 1997 "Role of NSF in Cellular Secretion: A Molecular Study" P.I.	\$82,000
Grant-in-Aid from American Heart Association, 1995-1998 (declined after first year) "Identification and Characterization of Exocytic Machinery Components in the Platelet" P.I.	\$119,000
Grant-in-Aid from American Heart Association Kentucky Affiliate, 1995-1996 (declined) "Identification and Characterization of Exocytic Machinery Components in the Platelet" P.I.	\$28,000
Kentucky Center for Structural Biology KY/NSF EPSCoR, 1996-1997 "NSF Structure and Function"	\$22,447
National Institutes of Health, 1R01HL56652-01, 7/96-6/01 "Molecular Mechanisms of Platelet Exocytosis" P.I. 30% effort	\$707,673
National Institutes of Health, 1R01AI41668 9/98-9/03 "Mechanism of YopM in Plague" S.C. Straley, P.I. 2.5% effort as Consultant	\$1,297,670
Department of Veterans Affairs 10/99-9/02 "Long-Term Effect of Kindled Epilepsy on the Neurosecretory Apparatus" John Slevin, P.I. 5% effort as Co-Investigator	\$275,000
American Heart Association Ohio Valley Affiliate 0150841B 7/1/01-6/30/03 "Molecular Mechanisms of Platelet Exocytosis" P.I. 35% Effort Returned after first year due to overlap with NIH HL56652-06	\$110,000
National Institutes of Health, RO1HL56652-06 4/1/02-3/31/06 "Molecular Mechanisms of Platelet Exocytosis" P.I. 35% effort budget increased by \$26,000 on 7/30/04	\$1,013,600
Department of Veterans Affairs 1/1/04-6/30/07 "Long-Term Effect of Kindled Epilepsy on the Neurosecretory Apparatus" John Slevin, P.I. 10% effort as Co-Investigator	\$801,200
American Heart Association Ohio Valley Affiliate 0455422B 7/1/04-6/30/06 "Structure/Function of N-ethylmaleimide Sensitive Factor" P.I. 25% Effort	\$121,000

Returned after first year due to overlap with NS046242-01 National Institutes of Health, R21HL081614 submitted to PA 03-015 4/1/06-3/31/08 "Role of O-GlcNAc in Platelet Activation" P.I. 20% effort	\$292,800
UBC Pharma The Keppra Investigator Initiated Study (KIIS) 11/1/05-8/1/08 "Effects of LEV on SNARE Complex Assembly during Epileptogenesis" John Slevin PI 10% Effort as Co-PI.	\$34,150
ACTIVE	
National Institutes of Health P20 RR-03-014 9/1/04-8/31/09 Center of Biomedical Research Excellence (COBRE) in the Molecular Basis of Human Disease Louis B. Hersh P.I. Mentor to one of the young investigators (10% effort) and as director of the imaging facility (5% effort).	\$6,855,940
National Institutes of Health, RO1 NS046242-01 9/20/04-6/30/09 "Structure/Function of N-ethylmaleimide Sensitive Factor" P.I. 35% effort	\$1,149,969
Department of Veterans Affairs 7/1/07-6/30/10 "Long-Term Effect of Kindled Epilepsy on the Neurosecretory Apparatus" John Slevin, P.I. 10% effort as Co-Investigator	\$801,200
National Institutes of Health, RO1HL56652-10 8/21/07-5/31/11 "Molecular Mechanisms of Platelet Exocytosis" P.I. 30% effort	\$1,172,000
National Institutes of Health 1R01HL091893-01 4/1/08-3/31/12 "The Platelet Secretary Machinery" P.I. 35% Effort	\$1,465,000
National Institutes of Health P20 RR-021954-01A1 7/1/08-6/30/13 Center of Biomedical Research Excellence (COBRE) in Obesity and Cardiovascular Disease Lisa Cassis, P.I. Mentor to one of the young investigators (10% effort).	\$10,532,685

Publications:

1. Whiteheart, S.W., Campbell, R.D., and Love, S.H. (1982) Adaptable System for Microdialysis. **Journal of Chromatography** 240, 203.
2. Campbell, R.D., Love, S.H., Whiteheart, S.W., Young, B., and Myrvik, Q.N. (1982) Increased Hyaluronic Acid is Associated with Dermal Delayed-Type Hypersensitivity. **Inflammation** 6, 235.
3. Herman, J.H., Whiteheart, S.W., Shirey, R.S., Johnson, R.J., Kickler, T.S., and Ness, P.M. (1987) Red Cell Th Activation: Biochemical Studies. **British Journal of Haematology** 65, 205.
4. Whiteheart, S.W. and Hart, G.W. (1987) Sialyltransferases as Specific Cell Surface Probes of Terminal and Penultimate Saccharide Structures on Living Cells. **Analytical Biochemistry** 163, 123.
5. Powell, L.D., Whiteheart, S.W., and Hart, G.W. (1987) Cell Surface Sialic Acid Influences Tumor Cell Recognition in the Mixed Lymphocyte Reaction. **Journal of Immunology** 139, 262.
6. Reichner, J.S., Whiteheart, S.W., and Hart, G.W. (1988) Intracellular Trafficking of Cell Surface Sialoglycoproteins. **Journal of Biological Chemistry** 263, 16316.
7. Whiteheart, S.W., Passaniti, A., Reichner, J.S., Holt, G.D., Haltiwanger, R.S., and Hart, G.W. (1989) Glycosyltransferase Probes. **Methods in Enzymology** 179, 82.
8. Whiteheart, S.W., Shenbagamurthi, P., Chen, L., Cotter, R.J., and Hart, G.W. (1989) Murine Elongation Factor EF-1 α is Posttranslationally Modified by Novel Amide-Linked Ethanolamine-Phosphoglycerol Moieties: Addition of

Ethanolamine-Phosphoglycerol to Specific Glutamic Acid Residues on EF-1 α . **Journal of Biological Chemistry** 264, 14334.

9. Whiteheart, S.W., McLenithan, J.C., and Hart, G.W. (1990) Surfaces of Murine Lymphocyte Subsets Differ in Sialylation State and Antigen Distribution of a Major N-Linked Penultimate Saccharide Structure. **Cellular Immunology** 125, 337 .
10. Wilson, D.W., Whiteheart, S.W., Orci, L., and Rothman, J.E. (1991) Intracellular Membrane Fusion. **Trends in Biochemical Science** 16, 334.
11. Wilson, D.W., Whiteheart, S.W., Wiedmann, M., Brunner, M., and Rothman, J.E. (1992) Programmed Assembly and Disassembly of a Multisubunit Particle Involved in Membrane Fusion. **Journal of Cell Biology** 117, 531.
12. Whiteheart, S.W., Brunner, M., Wilson, D.W., Wiedmann, M., and Rothman, J.E. (1992) Soluble N-Ethylmaleimide-Sensitive Fusion Attachment Proteins (SNAPs) Bind to a Multi-SNAP Receptor Complex in Golgi Membranes. **Journal of Biological Chemistry** 267, 12239.
13. Whiteheart, S.W., Griff, I.C., Brunner, M., Clary, D.O., Mayer, T., Buhrow, S. A., and Rothman, J.E. (1993) SNAP family of NSF attachment proteins includes a brain-specific isoform. **Nature** 362, 353.
14. Söllner, T., Whiteheart, S.W., Brunner, M., Erdjument-Bromage, H., Geromanos, S., Tempst, P., and Rothman J.E. (1993) SNAP receptors implicated in vesicle targeting and fusion. **Nature** 362, 318.
15. Söllner, T., Bennett, M.K., Whiteheart, S.W., Scheller, R.H., and Rothman, J.E. (1993) A Protein Assembly-Disassembly Pathway *In Vitro* That May Correspond to Sequential Steps of Synaptic Vesicle Docking, Activation, and Fusion. **Cell** 75, 409.
16. Whiteheart, S.W., and Hart, G.W. (1994) Incorporation of [³H]Ethanolamine into a Single Cytosolic Protein in a Cell Free System: Ethanolaminylation of EF-1 α *in vitro*. **Archives of Biochemistry and Biophysics** 309, 387.
17. Whiteheart, S.W., Rossmagel, K., Buhrow, S.A., Brunner, M., Jaenicke, R., and Rothman, J.E. (1994) N-Ethylmaleimide-Sensitive Fusion Protein: A Trimeric ATPase Whose Hydrolysis of ATP is Required for Membrane Fusion. **Journal of Cell Biology** 126, 945.

Since starting at University of Kentucky

18. DeBello, W.M., O'Connor, V., Dresbach, T., Whiteheart, S.W., Wang, S.S.-H., Schweizer, F.E., Betz, H., Rothman, J.E., and Augustine, G.J. (1995) SNAP-Mediated Protein-Protein Interactions are Essential for Neurotransmitter Release. **Nature** 373, 626.
19. Whiteheart, S.W. and Kubalek, E.W. (1995) SNAPs and NSF: general members of the fusion apparatus. **Trends in Cell Biology** 5, 64.
20. Nagiec E.E., Bernstein A., and Whiteheart, S.W. (1995) Each Domain Distinctly Contributes to the Transport Activity of the N-Ethylmaleimide Sensitive Fusion Protein (NSF). **Journal of Biological Chemistry** 270, 29182.
21. Burns, M.E., Beushausen, S.A., Chin, G.J., Tang, D., DeBello, W.M., Dresbach, T., O'Connor, V., Schweizer, F.E., Wang, S.S., Whiteheart, S.W., Hawkey, L.A., Betz, H., and Augustine, G.J. (1995) Proteins Involved in Synaptic Vesicle Docking and Fusion. **Cold Spring Harbor Symposium on Quantitative Biology** 60, 337
22. Apodaca, G., Cardone, M.H., Whiteheart, S.W., DasGupta, B.R., and Mostov, K.E. (1996) NSF and SNARE Requirement for Transcytosis: Existence of Multiple Fusion Mechanisms with the Apical Surface of MDCK Cells. **EMBO Journal** 15, 1471.
23. Timmers, K.I., Clark, A.E., Omatsu-Kanbe, M., Whiteheart, S.W., Bennett, M.K., Holman, G.D., and Cushman, S.W. (1996) Identification of SNAP Receptors in Rat Adipose Cell Membrane Fractions and Membrane Fusion Complexes Co-Immunoprecipitated with NEM-Sensitive Fusion Proteins. **Biochemical Journal** 320, 429.

24. Colombo, M.I., Taddese, M., Whiteheart, S.W., and Stahl, P.D. (1996) A Possible Pre-Docking Attachment Site for NSF: insights from in vitro endosome fusion. **Journal of Biological Chemistry** 271, 18810.
25. Lemons, P. P., Chen, D., Bernstein, A. M., Bennett, M. K., and Whiteheart, S.W. (1997) Regulated Secretion in Platelets: Identification of Elements of the Platelet Exocytosis Machinery. **Blood** 90, 1490.
26. Matveeva, E.A., He, P., and Whiteheart, S.W. (1997) N-Ethylmaleimide-sensitive Fusion Protein (NSF) contains high and low affinity ATP-binding sites that are functionally distinct. **Journal of Biological Chemistry** 272, 26413.
27. Colombo, M.I., Gelberman, S.C., Whiteheart, S.W., and Stahl, P.D. (1998) N-ethylmaleimide-Sensitive Factor-dependent α -SNAP Release, an Early Event in the Docking/Fusion Process, is not Regulated by Rab GTPases. **Journal of Biological Chemistry** 273, 1334.
28. Low, S.H., Chapin, S.J., Wimmer, C., Whiteheart, S.W., Kömüves, L.G., Mostov, K.E., and Weimbs, T. (1998) The SNARE Machinery Is Involved in Apical Plasma Membrane Trafficking in MDCK Cells. **The Journal of Cell Biology**, 141, 1.
29. Leung, S.-M., Chen, D., DasGupta, B.R., Whiteheart, S.W., and Apodaca, G. (1998) SNAP-23 Requirement for Endocytic Traffic in Streptolysin-O Permeabilized Madin-Darby Canine Kidney Cells. **Journal of Biological Chemistry**, 273, 17732.
30. Lenzen, C.U., Oppitz, D., Whiteheart, S.W., and Weis, W.I. (1998) Crystal Structure of the Hexamerization Domain of N-Ethylmaleimide-Sensitive Fusion Protein. **Cell**, 94, 525-536.
31. Matveeva, E. A., and Whiteheart, S.W. (1998) The Effect of SNARE Complexes on the ATPase Activity of NSF. **FEBS Letters**, 435, 211.
32. Minger, S.L., Geddes, J.W., Holtz, M.L. Craddock, S.D., Whiteheart, S.W., Siman, R.G., and Pettigrew, L.C. (1998) Glutamate Receptor Antagonists Inhibit Calpain-Mediated Cytoskeletal Proteolysis in Focal Cerebral Ischemia. **Brain Research** 810, 181.
33. Bernstein, A.M. and Whiteheart, S.W. (1999) Identification of a Cellubrevin/VAMP 3 Homologue in Human Platelets. **Blood**, 93, 571.
34. Chen, D. and Whiteheart, S.W. (1999) Intracellular Localization of SNAP-23 to Endosomal Compartments. **Biochemical Biophysical Research Communications**, 255, 340.
35. Chen, D., Minger, S.L., Honer, W.G., and Whiteheart, S.W. (1999) Organization of the Secretory Machinery in the Rodent Brain: Distribution of the t-SNAREs, SNAP-25 and SNAP-23. **Brain Research**, 831, 11.
36. May, A.P., Misura, K.M.S., Whiteheart, S.W., and Weis, W.I. (1999) Crystal Structure of the Amino-Terminal Domain of the N-ethylmaleimide Sensitive Fusion Protein (NSF). **Nature Cell Biology**, 1, 175
37. He, P., Southard, R.C., Chen, D. Whiteheart, S.W., and Copper, R.L. (1999) Role of α -SNAP in Promoting Efficient Neurotransmission at the Crayfish Neuromuscular Junction. **Journal of Neurophysiology**, 82, 3406.
38. Richards-Smith, B., Novak, E.K., Jang, E.K., Haslam, R.J., Castle, D., He, P., Whiteheart, S.W., and Swank, R.T. (1999) Analyses of Proteins Involved in Vesicular Trafficking in Platelets of Mouse Models of Hermansky Pudlak Syndrome. **Molecular Genetics and Metabolism**, 68, 14.
39. Chen, D., Bernstein, A.M., Lemons, P.P., and Whiteheart, S.W. (2000) Molecular Mechanisms of Platelet Exocytosis: Role of SNAP-23 and Syntaxin 2 in Dense Core Granule Release. **Blood**, 95, 921.
40. Lemons P.P., Chen, D., and Whiteheart, S.W. (2000) Molecular Mechanisms of Platelet Exocytosis: Requirements for α -Granule Release. **Biochemical Biophysical Research Communications**, 267, 875.
41. Chen, D., Lemons, P.P., Schraw, T., and Whiteheart, S.W. (2000) Molecular Mechanisms of Platelet Exocytosis: Role of SNAP-23 Syntaxin 2 and 4 in Platelet Lysosome Release. **Blood**, 96, 1782.

42. Southard, R.C., Haggard, J., Crider, M.E., Whiteheart, S.W., and Cooper, R.L. (2000) Influence of Serotonin on the Kinetics of Vesicle Release. **Brain Research**, 871, 16.
43. Whiteheart, S.W., Schraw, T., and Matveeva, E. A. (2001) N-ethylmaleimide Sensitive Factor (NSF) Structure and Function. **International Review of Cytology**, 207, 71.
44. Matveeva, E.A., Whiteheart, S.W., Vanaman, T.C., and Slevin, J.T. (2001) Phosphorylation of the N-ethylmaleimide Sensitive Factor (NSF) is Associated with Depolarization-Dependent Neurotransmitter Release from Synaptosomes. **Journal of Biological Chemistry**, 276, 12174.
45. Chen, D., Xu, W., He, P., Medrano, E.E., and Whiteheart, S.W. (2001) Gaf-1, a γ -SNAP Binding Protein Associated with Mitochondria. **Journal of Biological Chemistry**, 276, 13127.
46. May, A.P. Whiteheart, S.W., and Weis W. I. (2001) Unraveling the Mechanism of NSF, the N-ethylmaleimide Sensitive Factor. **Journal of Biological Chemistry**, 276, 21991.
47. Cooper, R.L., Southard, R.C., He, P., and Whiteheart, S.W. (2002) Influence of neuromodulators and vesicle docking related proteins on quantal release. In, "The Crustacean Nervous System". (Konrad Wiese, ed.) Springer-Verlag, Heidelberg, Germany. pp. 63.
48. Matveeva, E.A., May, A.P., He, P. and Whiteheart, S.W. (2002) Uncoupling of NSF ATPase from SNARE Complex Disassembly. **Biochemistry**, 41, 530.
49. Rutledge, T. and Whiteheart, S.W. (2002) SNAP-23 is a Target for Calpain Cleavage in Activated Platelets. **Journal of Biological Chemistry**, 277, 37009.
50. Matveeva, E.A., Whiteheart, S.W., and Slevin, J.T. (2003) Accumulation of SNARE Complexes in Hippocampal Synaptosomes from Chronically Kindled Rats. **Journal of Neurochemistry**, 84, 1.
51. Skrzypek, E., Myers-Morales, T., Whiteheart, S.W., and Straley, S.C. (2003) Localization of Domains Involved in Trafficking to the Yeast Nucleus by *Yersinia pestis* YopM. **Infection and Immunity**, 71, 937.
52. Schraw, T.D., Lemons, P.P., Dean, W.L., and Whiteheart, S.W. (2003) Role for Sec1/Munc18 Proteins in Platelet Exocytosis. **Biochemical Journal**, 374, 207.
53. Schraw, T. D., Rutledge, T. W. , Crawford, G. L., Kalen, L. A., Pessin, J. E., Bernstein, A. M., and Whiteheart, S.W. (2003) Granule Stores from Cellubrevin/VAMP-3 Null Mouse Platelets Exhibit Normal Stimulation-Induced Release. **Blood**, 102, 1716.
54. Puri, N., Kruklak, M.J., Whiteheart, S.W., and Roche, P.A. (2003) Mast Cell Degranulation Requires N-Ethylmaleimide-Sensitive Factor-Mediated SNARE Disassembly. **Journal of Immunology**, 171, 5345.
55. Rutledge, T. W. and Whiteheart, S.W. (2004) Studies of Secretion Using Permeabilized Platelets. **Platelets and Megakaryocytes: Vol. 1 Functional Assays**, Gibbins, J.M. and Mahaut-Smith, M.P. eds., **Methods in Molecular Biology** Vol. 272, p. 109.
56. Dean W.L. and Whiteheart, S.W. (2004) Plasma Membrane Ca^{2+} -ATPase (PMCA) Translocates to Filopodia during Platelet Activation. **Thrombosis and Haemostasis**, 91, 325. (Cover Photo)
57. Whiteheart, S.W. and Matveeva, E.A. (2004) Multiple Binding Proteins Suggest Diverse Functions for the N-ethylmaleimide Sensitive Factor (NSF). **Journal of Structural Biology**, 146, 32.
58. Ogura, T, Whiteheart, S.W., and Wilkinson, A.J. (2004) Conserved Arginine Residues Implicated in ATP Hydrolysis, Nucleotide Sensing, and Inter-Subunit Interactions in AAA and AAA+ ATPases. **Journal of Structural Biology**, 146, 106.
59. Schraw, T.D., Crawford, G.L., Ren, Q., Choi, W., Thurmond, D. C., Pessin, J. E., and Whiteheart, S.W. (2004) Platelets from Munc18c Heterozygous Mice Exhibit Normal Stimulus-Induced Release. **Thrombosis and Haemostasis**, 92, 829.

60. Slevin, J. T., Whiteheart, S. W. and Vanaman, T. C. (2005) A Proteomic Approach to the Molecular Analysis of Kindling. In **Kindling 6** (Corcoran, M. and Moshe, S., eds) Kluwer/Plenum Press, Inc., New York, NY.
61. Gage, R.M., Matveeva, E.A., Whiteheart, S.W., and von Zastrow, M. (2005) Type I PDZ ligands are sufficient to promote rapid recycling of G protein-coupled receptors independent of binding to NSF. **Journal of Biological Chemistry**, 280, 3305.
62. Schraw, T.D. and Whiteheart, S.W. (2005) The development of a quantitative ELISA to detect human platelet factor 4. **Transfusion**. 45, 717.
63. Hepp, R., Puri, N., Hohenstein, A.C., Crawford, G.L., Whiteheart, S.W., and Roche, P.A. (2005) Phosphorylation of SNAP-23 Regulates Exocytosis from Mast Cells. **Journal of Biological Chemistry**, 280, 6610.
64. Hanson, P.I. and Whiteheart, S.W. (2005) AAA ATPases: Have Engine Will Work. **Nature Reviews, Molecular Cell Biology**, 6, 519. (Featured Article)
65. Chen, X., Matsumoto, H., Hinckl, C.S., Al-Hasani, H., St.-Denis, J.F., Whiteheart, S.W., and Cushman, S. W. (2005) Demonstration of differential quantitative requirements for NSF among multiple vesicle fusion pathways of GLUT4 using a dominant-negative ATPase-deficient NSF. **Biochemical Biophysical Research Communications** 333, 28.
66. Mackenzie, I., Baker, M., West, G., Woulfe, J., Qadi, N., Adamson, J., Feldman, H., Lindholm, C., Melquist, S., Pettman, R., Sadovnick, A. D., Dwosh, E., Whiteheart, S. W., Hutton, M., Pickering-Brown, SM (2006) A Family With Tau-Negative Frontotemporal Dementia and Neuronal Intranuclear Inclusions Linked to Chromosome 17. **Brain**, 129, 853.
67. Choi, W., Karim, Z. and Whiteheart, S.W. (2006) Arf6 Plays an Early Role in Platelet Activation by Collagen and Convulxin. **Blood** 107, 3145.
68. Matveeva, E.A., Vanaman, T.C., Whiteheart, S.W., and Slevin, J.T. (2007) Asymmetric Accumulation of Hippocampal 7S SNARE Complexes Occurs Regardless of Kindling Paradigm. **Epilepsy Research** 73, 266.
69. Ren, Q., Barber, H.K., Crawford, G.L., Karim, Z.A., Zhao, C., Choi, W., Wang, C.C., Hong, W., and Whiteheart, S.W. (2007) Endobrevin/VAMP-8 is the Primary v-SNARE Required for the Platelet Release Reaction. **Molecular Biology of the Cell** 18, 24.
70. Badol, P., David-Dufulho, M., Auger, J., Whiteheart, S.W., and Rendu, F. (2007) Thiosulfates modulate platelet activation by reaction with surface free sulfhydryls and internal thiol-containing proteins. **Platelets** 18, 481.
71. Zhao, C., Slevin, J.T., and Whiteheart, S.W. (2007) Cellular Functions of NSF: Not Just SNAPs and SNAREs. **FEBS Letters** 581, 2140.
72. Smyth, S.S., Monroe, D.M., Wysokinski, W.E., McBane, R.D., II, Whiteheart, S.W., Becker, R.C., and Steinhubl, S.R.. (2007) Platelet activation and its patient-specific consequences. **Thrombosis Research**. In press
73. Matveeva, E. A., Vanaman, T. C., Whiteheart, S. W., and Slevin, J. T. (2008) Levetiracetam Prevents Kindling-Induced Accumulation of Hippocampal 7S SNARE Complex. **Epilepsia**, In press.
74. Graham, G.J., Ren, Q., Whiteheart, S.W.[#], and Flaumenhaft, R. (2008) Endobrevin/VAMP-8-Mediated Granule Secretion is Required for Efficient Thrombus Formation *In Vivo*. **Blood**, In revision. [#]Corresponding author
75. Karim, Z., Choi, W., and Whiteheart, S.W. (2008) Primary Platelet Signaling Cascades and Integrin-Mediated Signaling Control ADP-Ribosylation Factor (Arf)-6-GTP Levels during Platelet Activation and Aggregation. **Journal of Biological Chemistry**, 283, 11995.
76. Crawford, G.L., Hart, G.W., and Whiteheart, S.W. (2008) Murine Platelets are not Regulated by O-Linked β -N-acetylglucosamine. **Archives of Biochemistry and Biophysics**, 474, 220.

77. Whiteheart, S.W., Matveeva, E.A., Vanaman, T.C., and Slevin, J.T. (2008) Presynaptic Neurotransmission: Alterations in Exocytotic/Secretory Machinery in Kindling. Submitted.
78. Vanaman, T.C., Whiteheart, S.W., Matveeva, E.A., and Slevin, J.T. (2008) Proteomic approaches to the analysis of protein alterations at the synapse in kindling. Submitted.
79. Ren, Q., Ye, S. and Whiteheart, S.W. (2008) The Platelet Release Reaction: Just when you thought platelet secretion was simple. **Current Opinion in Hematology**, In press.
80. Rutledge, T.W., Fukuda, K., Zhu, H., Gutman, R., and Whiteheart, S.W. (2008) Characterization of SNAP-23 Cleavage by Calpain. In preparation.
81. He, P., Xi, C., Buhrow, S.A., and Whiteheart, S.W. (2008) Binding of N-ethylmaleimide Sensitive Factor (NSF) To the Exocytosis Regulator Synaptotagmin. In preparation.

Abstracts: (incomplete list)

- Whiteheart, W. and Hart, G.W. (1985) "Sialyltransferase as Impermeant Probes of Oligosaccharides on Living Cells" **Federation Proceedings** 44(5), 1436.
- Whiteheart, W. and Hart, G.W. (1985) "Sialyltransferase as Impermeant Probes of Oligosaccharides on Living Cells" **Glycoconjugates, Proceedings of VIII International Symposium 2**, 588.
- Whiteheart, S.W., Reichner, J.S., and Hart, G.W. (1986) "Recycling and Turnover of Cell Surface Glycoproteins" presented at the Society for Complex Carbohydrates, Charleston, SC.
- Reichner, J.S., Whiteheart, S.W., Reynafarje, B., and Hart, G.W. (1986) "Cellular Trafficking of Cell Surface Glycoproteins" **Journal of Cell Biology** 103 (5 pt 2), 328a.
- Whiteheart, S.W., Krakow, J.L., Herald, D., Englund, P.T., and Hart, G.W. (1987) "Identification of a Biosynthetic Precursor of the Glycolipid Anchor on Murine THY 1.2 Antigen" presented at the Society for Complex Carbohydrates, Bethesda, MD.
- Hart, G.W., Masterson, W.J., Whiteheart, S.W., Doering, T.L., Zaccagnino, C.E., and Englund, P.T. (1988) "Biosynthesis of Glycosyl-Phosphatidyl Inositol Membrane Anchors" presented at the Society for Complex Carbohydrates, San Antonio, TX.
- Hart, G.W., Whiteheart, S.W., Passaniti, A., Reichner, J.S., Haltiwanger, R.S., Holt, G.D., and Kelly, W.G. (1989) "Use of Glycosyltransferases as Probes for Oligosaccharide Structure and Function" UCLA Symposia on Glycobiology.
- Whiteheart, S.W. and Hart, G.W. (1989) " Specific Incorporation of [³H]Ethanolamine into Protein in an *In Vitro* System" **Journal of Cell Biology** 107, (6 pt. 3), 854a.
- Whiteheart, S.W., Wilson, D.W., Brunner, M., and Rothman J.E. (1991) "Characterization of the Interactions between NSF, SNAPs, and a Golgi-Membrane-Derived Receptor" **Journal of Cell Biology** 115 (3 pt 2), 244a.
- Whiteheart, S. W., Söllner, T., and Rothman, J.E. (1993) "Molecular Mechanisms of Intracellular Protein Transport" presented at the International Symposium on GTPase-Controlled Molecular Machines, Ares Serono Symposia, S.M. Imbaro, Italy.
- Whiteheart, S.W., Rossnagel, K., Buhrow, S.A., Brunner, M., Jaenicke, R., and Rothman, J.E. (1994) "Structural analysis of the general fusion protein NSF" Lysosome Gordon Conference, Andover, NH.
- Whiteheart, S. W., Nagiec, E.E., Berstein, A., and Buhrow, S.A. (1995) "Functional Roles for Each of the Three Domains of the N-Ethylmaleimide Sensitive Fusion Protein (NSF)" First Conference on the AAA Family of ATPases. Gif-surYvette, France.

- Weimbs, T., Low, S.H., Chapin, S.J., Whiteheart, S.W., Bennett, M.K., and Mostov, K.E. (1996) "The Role of the NSF/SNAP/SNARE Vesicular Fusion Machinery in Protein Targeting in Polarized Epithelial Cells" **Molecular Biology of the Cell** 7, 445a.
- Bernstein, A.M., Lemons, P.P., Bennett, M.K., Waters, M.G., and Whiteheart, S.W. (1996) "A Novel Synaptobrevin in Human Platelets" **Molecular Biology of the Cell** 7, 446a.
- Colombo, M.I., Taddese, M., Whiteheart, S.W., and Stahl, P.D. (1996) A Novel Binding Site for NSF: Insights from *in vitro* Endosome Fusion" **Molecular Biology of the Cell** 7, 614a.
- Slevin, J.T., Whiteheart, S.W. and Vanaman, T.C. (1996) "Response of hippocampal synaptic vesicle docking and fusion proteins to calcium & depolarization in kindled and naive rats" **Society of Neuroscience Abstract**. 22, 1992.
- Whiteheart, S.W., He, P., Xi, C., Matveeva, E., and Buhrow, S.A. (1997) "Roles for the three domains of the N-Ethylmaleimide Sensitive Factor (NSF)" EMBO Workshop, Cellular Functions of AAA Proteins. Munich, Germany
- He, P., Whiteheart, S.W., Porter, J.D., and Copper, R.L. (1997) "Physiological Role of Synaptic Vesicle Docking Related Proteins α -SNAP and γ -SNAP at the Crayfish NMJ" Neuroscience Meeting, Oct.
- Leung, S., Chen, D., DasGupta, B.R., Whiteheart, S.W., and Apodaca, G. (1997) "SNAP-23 Requirement for Endocytic Traffic in Streptolysin-O Permeabilized Madin-Darby Canine Kidney Cells" **Molecular Biology of the Cell** 8, 92a.
- Lemons, P.P. and Whiteheart, S.W. (1997) "Identification and Characterization of a Human Platelet Munc-18" **Molecular Biology of the Cell** 8, 201a.
- Chen, D., Minger, S.L., Honer, W.G., Williams, R.J., and Whiteheart, S.W. (1997) "Organization of the Secretory Machinery in Neurons: Sorting of the t-SNARES SNAP-23 and SNAP-25" **Molecular Biology of the Cell** 8, 296a.
- Matveeva, E.A., He, P., and Whiteheart, S.W. (1997) "N-Ethylmaleimide-Sensitive Fusion Protein (NSF) Contains High and Low Affinity ATP-Binding Sites that are Functionally Distinct" **Molecular Biology of the Cell** 8, 296a.
- Lemons, P.P., Engle, M.G., Maley, B.E., Bernstein, A.M., Chen, D., and Whiteheart, S.W. (1998) "Characterization of the Interaction Between Munc-18-3 and Syntaxin 4 in Resting and Stimulated Platelets" **Molecular Biology of the Cell** 9, 220a.
- Bernstein, A.M., Whiteheart, S.W. (1998) "Characterization of a Cellubrevin/VAMP3 Homolog in Human Platelets" **Molecular Biology of the Cell** 9, 332a.
- Matveeva, E.A., Whiteheart, S.W. (1998) "The Effect of SNAP/SNARE Complexes on the ATPase of NSF" **Molecular Biology of the Cell** 9, 332a.
- Chen, D., and Whiteheart, S.W. (1998) "Characterization of SNAP-23 in Human Platelets" **Molecular Biology of the Cell** 9, 33a.
- Slevin, J.T., Matveeva, E.A., Whiteheart, S.W., and Vanaman, T.C. (1999) "Serine/threonine phosphorylation of NSF is associated with Ca^{+2} -dependent K^{+} -stimulated release of L-glutamate in neocortical synaptosomes". **Annals of Neurology** 46:487.

Invited Lectures:

- Biology of Parasitism Course, Marine Biology Laboratories, Woods Hole, MA, (7/20/94)
- University of Kentucky, Department of Biology, Lexington, KY (4/13/94)
- Universität Heidelberg, Institut für Biochemie, Heidelberg, Germany (10/20/95)
- Washington University, Department of Cell Biology, St. Louis, MO (11/3/95)
- The Scripps Research Institute, Department of Cell Biology, La Jolla, CA (5/20/96)
- Integrative Physiology Seminar, University of Kentucky, Department of Physiology, (9/13/96)
- University of Louisville School of Medicine, Department of Biochemistry, Louisville, KY (9/23/96)
- University of Louisville School of Dentistry, Cell Biology Course, Louisville, KY (9/23/96)
- University of Pittsburg School of Medicine, Department of Cell Biology and Physiology, Pittsburg, PA (12/4/96)

Laboratoire de Biochimie et Biophysique des Systemes Integres, CEA-Grenoble, Grenoble France (5/21 and 5/22/97)
 Vanderbilt University, Department of Biochemistry, Nashville, TN (7/14/97)
 University of Kentucky, Department of Microbiology and Immunology, Lexington, KY (2/10/98)
 Morehead State University, Morehead, KY (2/12/98)
 University of Virginia School of Medicine, Department of Cell Biology, Charlottesville, VA (3/31/99)
 Sloan-Kettering Institute, Program for Cellular Biochemistry and Biophysics, New York, NY (9/14/99)
 University of Alabama at Birmingham, Department of Cell Biology, Birmingham, AL (9/16/99)
 School of Life Science, Tokyo University of Pharmacy and Life Science, Tokyo Japan (10/5/99)
 Japanese Biochemical Society, Mini-symposium on AAA proteins, Yokohama Japan (10/8/99)
 8th Erfurt Conference on Platelets, Erfurt, Germany (6/27/00)
 Conference on Hermansky-Pudlak Syndrome, Bethesda, MD (7/6/00)
 University of Kentucky, Department of Physiology, Lexington, KY (12/20/00)
 Nottingham Platelet Conference, Nottingham, United Kingdom (7/29/02)
 5th International Conference on AAA Proteins, Warrenton, VA, (6/17/03)
 Sol Sherry Thrombosis Research Center, Temple University, Philadelphia, PA (9/30/03)
 Department of Biochemistry and Molecular Biology, Wright State University, Dayton, OH (10/24/03)
 Cardiovascular Seminar Series, University of Kentucky, Lexington, KY (10/31/03)
 Department of Microbiology and Immunology, Loyola Univ., Stritch School of Medicine, Chicago, IL (3/11/04)
 Sixth International Conference on Kindling, Victoria, B.C. Canada (6/5/04)
 Department of Biochemistry, University of Vermont School of Medicine, Burlington, VT (5/20/05)
 Sol Sherry Thrombosis Research Center, Temple University, Philadelphia, PA (6/05/05)
 6th International Conference on AAA Proteins, Graz, Austria, (9/15/05)
 National Platelet Colloquium, Miami, FL, (1/19-20/06)
 Cardiovascular Seminar Series, University of Kentucky, Lexington, KY (3/31/06)
 University of Louisville School of Medicine, Louisville, KY (6/29/06)
 AFLAC Cancer Center & Blood Disorders Service (Emory University, Atlanta, GA) (8/23/06)
 University of Arkansas Medical Center, Little Rock, AR (2/22/07)
 Oklahoma Health Science Center, Oklahoma City, OK (3/14/07)
 University of Kentucky, Lexington, KY Clinical Sciences Program (3/22/07)
 Laboratory of Cell Biology-NHLBI, National Institutes of Health, Bethesda, MD (9/20/07)
 American Society of Hematology, Atlanta, GA (12/8/07)
 Cardeza Foundation for Hematologic Research, Thomas Jefferson University, Philadelphia, PA (1/16/08)
 ATVB Annual Conference, Atlanta, GA (4/16/08)

Journals Reviewed for:

Editorial Board, The Journal of Biological Chemistry 2001-2006, 2008-2013

Science

Proceedings of the National Academy of Science, USA

Trends in Cell Biology

Molecular Biology of the Cell

The Journal of Cell Biology

Journal of Cell Science

Blood

Thrombosis and Haemostasis

The Journal of Thrombosis and Haemostasis

Transfusion

Biochemistry

Biochimica, Biophysica Acta

European Journal of Biochemistry

Proteins: Structure, Function and Genetics

Journal of Structural Biology

Proteomics

The Journal of Neurochemistry

The Journal of Neuroscience

The Journal of Comparative Neurology

The Quarterly Review of Biology

FEBS Letters

Endocrinology

The European Journal of Histochemistry

The Journal of Leukocyte Biology

The International Journal of Biochemistry and Cell Biology
 Arteriosclerosis, Thrombosis and Vascular Biology
 American Journal of Cardiology

Extramural Committees:

Cell Structure and Metastasis Study Section, American Cancer Society *ad hoc* 1/97
 Cell Biology, Cellular Organization Subprogram, National Science Foundation, *ad hoc* 4/97, 10/97, 10/99, 5/02, 10/02, 10/04, 9/05, 10/05, 4/06, 10/06
 Health Research Council of New Zealand, *ad hoc* 8/97
 American Heart Association, Mid-American Research Consortium Peer Review Committee #4 Term 1997-2004
 Research and Development Committee, VA Medical Center, Lexington, KY *ad hoc* 5/98
 The Wellcome Trust, *ad hoc* 9/98, 4/00, 8/05, 11/06
 American Heart Association, Mid-American Research Consortium Peer Review Committee #4 **Vice Chair** 2001-2
 American Heart Association, Mid-American Research Consortium Peer Review Committee #4 **Chair** 2003-4
 Science Foundation of Ireland, *ad hoc* 2/03
 NIH NINDS SYN Study Section *ad hoc* 10/04, 10/05
Session Moderator, “Novel Mechanism of Platelet Activation”, AHA National Meeting 11/2004
 6th International Conference on AAA Proteins, **Scientific Committee** 9/14-18/05 Graz, Austria
 Biotechnology and Biological Sciences Research Council, United Kingdom, *ad hoc* 9/2005
 American Heart Association, Mid-American Research Consortium Peer Review Committee #2a/b, 2006-08
Session Moderator, Midwest Blood Club, Lexington, KY 4/7/06
 NIH Cellular Aspects of Diabetes & Obesity (CADO) Study Section *ad hoc* 6/7-9/06 and 10/06
 United States-Israel Binational Science Foundation, *ad hoc* 5/06
 Medical Research Council United Kingdom *ad hoc* 7/06
 Biotechnology and Biological Sciences Research Council, United Kingdom *ad hoc* 12/06
Session Moderator ATVB Annual Conference, Atlanta, GA (4/16-19/08)
 Co-Chair AHA Region II Thrombosis Study Group 2009
 Organizing Committee for The Midwest Platelet Conference (10/2-4/08)

University Committees:

Major Research Equipment Grant Review Committee 1996
 Integrated Graduate Program Committee 1999
 Curriculum Subcommittee 1999
 College of Medicine Research and Graduate Education Committee 1999-present
 Graduate Council Committee on Fellowships and Traineeships 2000-2003
 Graduate School Academic Year Fellowship Selection Panel 12/2001
 IBS Graduate Committee 2000-2003
 Fellowship Panel 2003-2004 Women in Under-Represented Areas, Panel **Chair** 2003
 IACUC Review Committee 2004-Present
 IACUC Medical Center **Subcommittee Chair** 2008-Present
 IACUC Review Committee **Vice Chair** 2008
 IACUC Review Committee **Chair** 2008-2009

Departmental Committees:

Graduate Studies Committee 1995 to 2003
 Curriculum subcommittee 1998 to 2003
 Course Director BCH501/607-IBS601 1998-2001
 Course Director BCH610 2003-Present
 Tissue Culture Room Renovation Committee 1997
 Seminar Speaker **Coordinator** 1996-2000
 Meet-the-PI Seminar Series (for first year students) **Coordinator** 1997-2000

Thesis Committees:

1. Audrey Bernstein	Biochemistry	1995-1999
2. Brian Finlin	Biochemistry	1995-1999
3. Ken Henry	Biochemistry	1995-2000

4. Paula Lemons	Biochemistry	1996-1999	
5. Haipeng Shao	Biochemistry	1996-2000	
6. Ashley Bray	Biochemistry	1996-1999	
7. Michael Thompson	Biochemistry	1996-2000	
8. Paula Hempen	Micro/Immuno	1996-1999	
9. Dong Chen	Biochemistry	1997-2000	
10. Wai Kan Loh	Micro/Immuno	1997-2001	
11. Jun-tao Guo	Biochemistry	1997-2001	
12. Misty Crider	Biology (MS)	1997-1998	
13. Ping He	Biology (MS)	1997-1998	
14. Anuradha Guha Niyogi	Biochemistry	1998-2002	
15. Brian Thompson	Biochem. (MS)	1998-2001	
16. Lisa Pedersen	Micro/Immuno	1998-2000	
17. Elena Braithewaite	Toxicology	1998-2000	
18. Johann Sohn	Biology (MS)	1998-1999	
19. Tara Rutledge	Biochemistry	1999-2004	
20. Todd Schraw	Biochemistry	1999-2004	AHA Ohio Valley Grant Awardee 2002-2004
21. Deborah Sullivan	Biochemistry	1999-2003	
22. Eric Lubert	Biochemistry	1999-2003	
23. Michael Spenser	Biochemistry	1999-2002	
24. Yasemin Kaya	Micro/Immuno	1999-2005	
25. Kris Jones	Biochem.(MS)	1999-2000	
26. Steve Zink	Micro/Immuno	1999-2002	
27. Amber Mosley	Biochemistry	2000-2004	
28. Bruce Griffis	Biology (MS)	2001-2002	
29. JiaYao	Biochemistry	2001-2005	
30. Kirk Williams	Biochem. (MS)	2001-2001	
31. Brian York	Biochemistry	2001-2006	
32. Garland Crawford	Biochemistry	2002-2007	AHA Ohio Valley Grant Awardee 2004-2006
33. Cara Pager	Biochemistry	2002-2006	
34. Kathleen Nichols	Micro/Immuno	2002-2008	
35. Rexford Assare	Micro/Immuno	2002-Left the University in 2005	
36. John Carmen	Micro/Immuno	2003-2007	
37. Jennifer Rudolph	Biochemistry	2003-2008	
38. Qiansheng Ren	Biochemistry	2003-2008	AHA Ohio Valley Grant Awardee 2006-2008
39. Wangsun Choi	Biochemistry	2003-2008	AHA Ohio Valley Grant Awardee 2006-2008
40. Lynea Alene Browning	Toxicology	2003-2008	
41. Sameera Dasari	Biology	2003-2007	
42. Megan Sampley	Biochemistry	2004-present	
43. Rachel Schowalter	Biochemistry	2004-2008	
44. Chunxia Zhao	Biochemistry	2005-present	Steckler Award Winner 2006
45. Jianing Yang	Biochemistry	2005-present	
46. Aashish Joshi	Neuroscience	2005-present	
47. Julie Oestreich	Pharmacy	2005-present	
48. Jie Zhang	Toxicology	2005-present	
49. Rania Al-Hawas	Clinical Sci.	2006-present	
50. Shaojing Ye	Biochemistry	2006-present	
51. Weikang Cai	Biochemistry	2006-present	
52. Andreea Popa	Biochemistry	2006-present	

53. Clint Smith	Biochemistry	2007-present
54. Xiaoyan Liu	Biochemistry	2007-present
55. Deepa Jonnalagadda	Biochemistry	2008-Present
56. Nikki Trinh	Biochemistry	2008-Present
57. Kevin Pinto	Micro/Immuno	2008-Present
58. Yang Fanmuyi	Physiology	2008-Present
59. Andres Chang	Biochemistry	2008-Present
60. Zachary Fulkerson	Physiology	2008-Present

Students in **BOLD** are in my research group

Post-Doctoral Fellows Supervised:

Susan A. Buhrow	1995-1996	
Elena Matveeva	1997-Present	(Research Associate since 2000)
Dong Chen	2000-2002	AHA Ohio Valley Post-Doctoral Fellowship 2000-2002
Zubair Karim	2004-Present	
Michael Chicka	2008-Present	

Undergraduates Supervised:

Jennifer Baker	1995
Bridgett Boggess	1996
Laila Akhlaghi	1995-1996
Ali Akhlaghi	1997
Robert Sisk	1996
Carson McCloud	1998
Azadeh Shirazi	1997-1999
Katherine Parks	1999
Brian Ward	2001
Antonia Stoyanova	2002-2003
Arun Sikka	2005, 2006
Brett Begley	2007-2008
Yunjie Huang	2008-Present

Community Service:

First Presbyterian Church, Lexington, KY
 Christian Education Committee 1998-2003
 Sunday School Superintendent 2001-2002
 Session Member (Elder) 2003-2005
 Co-Chair of Youth Ministry Team 2003-2005
 Member of Youth Ministry Team 2003-present
 Co-Chair of Youth Minister Search Committee 2003 and 2005
 Troop 111 BSA Meadowthorpe Presbyterian
 Troop Committee 2007-present
 Leave No Trace Trainer (course completed 7/08)