March 2007

CURRICULUM VITAE

NAME: M. Neal Waxham

PRESENT TITLE: Professor
Department of Neurobiology and Anatomy
The University of Texas Medical School at Houston
P.O. Box 20708, Houston, Texas 77225

ADDRESS: [redacted]

BIRTHDATE: January 13, 1957

CITIZENSHIP: U.S.A.

UNDERGRADUATE EDUCATION:

1974-1978	Pennsylvania State University, B.S. State College, Pennsylvania	1978	-Microbiology

GRADUATE EDUCATION:

1980-1984	The Johns Hopkins University, Ph.D. Baltimore, Maryland	1984	-Immunology and Infectious Disease

POSTGRADUATE TRAINING:

1983-1984	Research Associate, Department of Neurology The University of Texas Medical School at Houston Dr. Jerry Wolinsky and Dr. Alfred Server

ACADEMIC APPOINTMENTS:

1984-1985	Instructor, Department of Neurology The University of Texas Medical School at Houston
1985-1986	Research Assistant Professor, Department of Neurology, The University of Texas Medical School at Houston
1986-1990	Assistant Professor, Department of Neurology, The University of Texas Medical School at Houston
1990-1993	Assistant Professor, Department of Neurobiology and Anatomy, The University of Texas Medical School at Houston
1993-2001	Associate Professor (tenured), Department of Neurobiology and Anatomy, The University of Texas Medical School at Houston
2001-present	Professor (tenured), Department of Neurobiology and Anatomy, The University of Texas Medical School at Houston

2002-2006	Neuroscience Program Director, the Graduate School of Biomedical Sciences, The University of Texas Health Science Center at Houston
1988-present	Faculty Member of the Graduate School of Biomedical Sciences, The University of Texas Health Science Center at Houston

PROFESSIONAL ORGANIZATIONS:

1984-present	American Association for the Advancement of Science
1987-present	Society for Neuroscience
1998-present	American Society for Cell Biology
2003-present	Biophysical Society

HONORS AND AWARDS:

1991-1996	Research Career Development Award, NINDS, NIH
1997, 2000, 2004	Dean's Excellence Award
1997	John P. McGovern Award for Outstanding Teaching

EDITORIAL POSITIONS:

Ad hoc reviewer for:	Journal of Neurochemistry
	Journal of Neuroscience
	European Journal for Neuroscience
	Journal of Biological Chemistry
	Proceedings of the National Academy of Science

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

Ad Hoc Reviewer ZMH1 Study Section, NIH
Ad Hoc Reviewer ZDA1 Study Section, NIH

SERVICE ON UNIVERSITY OF TEXAS MEDICAL SCHOOL AT HOUSTON COMMITTEES:

1. Admissions Committee, Interviewer, 1987-2004
2. Admissions Committee Medical School, Full Member, 1989-1992
3. Committee to Evaluate the Analytical Chemistry Center, 1990, 1992
4. Faculty-Student Relations Committee, 1988-1991
5 M.D./Ph.D. Committee, 1991-1996
6. Biohazards Committee, 1993-1996
7. Student Evaluations and Promotions Committee, 1996-2000
8. Committee on Committees, 1994-1995
9. Admission Committee, GSBS, 1996-1998
10. Chemical Safety Committee, 1996-2005
11. Steering Committee for the Genomics/Proteomics Core Laboratories, 2000-2004
12. Faculty Appointments, Promotion and Tenure Committee 2002-2005

SERVICE ON UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER COMMTITTEES

1. Conflict of Interest Committee, 2000-present

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:

1. Sara Westgate 1986-1993; Currently Practicing Neurologist, Austin, Texas
2. William McVaugh 1990-1994; Currently Professor (tenured), Malone College, Canton OH
3. James Costantin 1990-1994; Currently Senior Research Scientist, Molecular Dynamics, Mountainview, CA
4. Andy Hudmon 1992-1997; Currently, Asst. Prof., Univ. of Indiana, Sch. of Med. Indianapolis, IN
5. Steve Kolb 1992-1998; Currently Research Fellow in Neurology, University of Pennsylvania, Philadelphia, PA
6. Sally Kim 1997-2005; Currently a post-doctoral fellow in Neuroscience, Cal Tech, Pasadena, CA
7. Tara Ginsberg 1998-2004; Currently a post-doctoral fellow in Neuroscience, University of British Columbia
8. Vijay Iyer 2002-2006; Currently a post-doctoral fellow, Janelia Farms HHMI, Janelia Farms, VA
9. Matt Swulius 2005-present; Ph.D. Candidate, GSBS
10. Aron (Ben) Goins 2006-present; Ph.D. Candidate, GSBS

SPONSORSHIP OF POSTDOCTORAL FELLOWS

1. Jarek Aronowski 1991-1994, Currently Research Associate Professor of Neurology, UTHSC at Houston, Houston, TX
2. Martin Fluck 1996-1999, Co-advisor with Frank Booth, Currently Assistant Professor, University of Bern, Bern
3. Yoshi Kubota 2003-2005, Currently Res. Scientist, Neurobiology and Anatomy, UTHSC at Houston. Houston, TX
4. Hugo Sanabria 2005-present

CURRENT TEACHING RESPONSIBILITIES:

1. Lecturer, Neuroscience Course
2. Lecturer, Cellular Neurobiology-Molecular and Developmental.
3. Lecturer, Advanced Neurobiology-Biophysics
4. Lecturer, Current Topics in Neuroscience
5. Lecturer, Current Methods in Molecular Research

CURRENT GRANT SUPPORT:

1. a. Title: Structure and Function of Calmodulin-dependent Protein Kinase
   b. P.I.: Dr. M. Neal Waxham
   c. Agency: NIH, NINDS
   d. Duration: 07-01-03 to 06-30-08
   e. Percent Effort: 30
   f. Total Project Direct Cost: $1,402,000

2. a. Title: Molecular Memory Mechanisms
   b. P.I. John Lisman
   c. Agency: NIH
   d. Duration: 2004-2008
   e. Percent Effort: 8
   f. Total Project Direct Cost: $1,000,000

3. a. Title: Neural Models of Plasticity: Molecules to Networks
   b. P.I. John Byrne
   c. Agency: NIH, NINDS
   d. Duration: 2005-2010
   e. Percent Effort: 20
   f. Total Project Direct Cost: $4,900,000

4. a. Title: Calcium-dependent Protein Regulation
   b. P.I. John Putkey
   c. Agency: NIH, NIGMS
   d. Duration: 2005-2009
   e. Percent Effort: 10
   f. Total Project Direct Cost: $760,000

5. a. Title: Training Grant in Neuroscience
   b. P.I.: Dr. Neal Waxham
   c. Agency: NIH, NIMH
   d. Duration: 2003-2008
   e. Percent Effort: 10
   f. Total Project Cost: $929,437

6. a. Title: Application of Fluorescence Correlation Spectroscopy to Understand Intracellular Diffusion
   b. P.I.: Dr. Neal Waxham; Student Aaron Goins
   c. Agency: Subcontract through Baylor for training grant position; NIH/GM
   d. Duration: 2006-2007
   e. Percent Effort: none specified
   f. Total Project Cost: $24,389

PAST GRANT SUPPORT:

1. a Title: Molecular Mechanism of Adrenergic Plasticity
   b. P.I.: Gale Craviso
   c. Agency: NIH, NINDSNS27550
   d. Duration 1989-1992
   e. Percent Effort: 5
   f. 1992 Project Cost: $142,719

2. a: Title: HN Glycoprotein Role in Mumps Virus Neurovirulence
   b. P.I.: Neal Waxham
   c. Agency: NIH, NINCDS
   d. Duration: 1986-1989
   e. Percent Effort: 80
   f. Total Project Cost: $301,528

3. a. Title: Role of Synthetic Peptides in Treatment of Paramyxovirus Infections
   b. P.I.: Neal Waxham
   c. Agency: General Hoeschst Corporation
   d. Duration: 1985-1986.
   e. Percent Effort: 10

4. a. Title: The Role of the HN Glycoprotein in Determining Mumps Virus Neurovirulence
   b. P.I.: Neal Waxham
   c. Agency: NIH Biomedical Research Support Grant

d. Duration: 1985-1986
e. Percent Effort: 70
f. Total Project Cost: $7,525

5. a. Title: Functional Topography of Rubella Virions
b. P.I.: Neal Waxham
c. Agency: NIH Biomedical Research Support Grant
d. Duration: 1984-1985
e. Percent Effort: 20
f. Total Project Cost: $6,381

6. a. Title: Calcium Blocker and Related Therapy for Stroke
b. P.I. Dr. Jim Grotta
c. Agency: NIH, NINDS
d. Duration: 04-01-91 to 03-30-94
e. Percent Effort: 20
f. Total Project Cost: $893,360

7. a. Title: Regulation of Adrenergic Metabolism
b. P.I.: Dr. Jack Waymire
c. Agency: NIH, NINDS
d. Duration: 12-1-90 to 11-30-94
e. Percent Effort: 5
f. Total Project Cost: $487,921

8. a. Title: CaM-kinase Autoregulation and Role in Synaptic Function
b. P.I.: Dr. M. Neal Waxham
c. Agency: NIH, NINDS, Research Career Development Award
d. Duration: 09-01-91 to 08-30-96
e. Percent Effort: 80
f. Total Project Cost: $343,170

9. a. Title: Isolation of an Immune Regulatory CNS Glycoprotein
b. P.I. Dr. John W. Lindsey
c. Agency: National Multiple Sclerosis Society
d. Duration: 04/01/01-03/31/03
e. Percent Effort: 5
f: Total Project Cost: $255,736

10. a: Title: Calmodulin Dynamics in Neurons
b: P.I. Sally Kim, National Research Service Award
c: Agency: National Institute of Mental Health
d: Duration: 06/01/01-05/31/04
e: Percent Effort: no specific percent effort
f: Total Project Cost: $77,000

11. a. Title: Adaptation of a multi-photon microscope to study intracellular diffusion
b. P.I.: Dr. Neal Waxham
c. Agency: Texas Higher Education Board; ARP
d. Duration: 2002-2004
e. Percent Effort: 20
f. Total Project Cost: $140,000

12. a. Title: Synaptic Signaling at the Single Molecule Level
b. P.I.: Dr. Neal Waxham
c. Agency: Human Frontiers in Science Program

d. Duration: 2002-2005
e. Percent Effort: 20
f. Total Project Direct Cost: $750,000

INVITED TALKS AND PRESENTATIONS

1990 - Department of Molecular Genetics, Harvard Medical School, Boston MA
1990 - Department of Neuroscience, Brown University, Providence RI
1992 - Symposium on Cell Signaling, Port Arthur NSW Australia
1994 - Neurology Grand Rounds, U.T. Medical School at Houston, Houston TX
1994 - Cerebral Ischemia and Basic Mechanisms, Bad Schaaden Germany
1996 - Department of Integrative Biology, U.T. Medical School at Houston, Houston TX
1997 - Department of Molecular Pharmacology, U. of Cincinnati Medical School, Cincinnati OH
1997 - Neurology Grand Rounds, U.T. Medical School at Houston, Houston TX
1998 - Dept. of Pathology and Lab Medicine, U.T. Medical School at Houston, Houston TX
2000 - Dept. of Integrative Biology, U.T. Medical School at Houston, Houston TX
2000 - Banbury Conference on the Biology of CaM-kinase II, CSH Laboratories, CSH NY
2000 - Dept. of Neuroscience, Baylor College of Medicine, Houston TX
2001 - Dept. of Neurobiology, Stanford University, Stanford, CA.
2002- Department of Neuroscience, Brandeis University, Waltham MA
2003- MARCS Program Invited Lecture, Delaware State University, DE
2004- Volen Institute for Learning and Memory, Brandeis University, Waltham, MA
2005- Volen Institute for Learning and Memory, Brandeis University, Waltham, MA
2005- Department of Pharmacology, Texas A&M University, College Station, TX
2006- Department of Integrative Biology, U.T. Medical School at Houston, Houston, TX
2006- Department of Molecular Biosciences, Kansas State University, Lawrence, KA
2006- Houston Area Molecular Biophysics/KECK seminar, Rice University, Houston, TX
2006- Department of Pharmacology, Columbia University, New York, NY

PUBLICATIONS:

A. Abstracts

1. Wolinsky, J.S., **Waxham, M.N**., and Server, A.C. (1985). Protective effects of glycoprotein-specific monoclonal antibodies on the course of experimental mumps virus meningoencephalitis. Neurology 35(2):281
2. Wolinsky, J.S., and **Waxham, M.N.** (1985). Detailed immunologic analysis of the structural polypeptides of rubella virus. Neurology 35(2):282.
3. Server, A.C., Smith, J.A., **Waxham, M.N.**, Wolinsky, J.S., and Goodman, H.M. (1985). Comparison of the F1 NH2-terminal region of a fusing and nonfusing strain of mumps virus. Virus Research 1S:72.
4. Burgin, K., **Waxham, M.N.** and Kelly, P.T. (1988). In situ hybridization analyses of Ca^{++}/calmodulin-dependent protein kinase II in developing rat brain. Soc. Neurosci. Abstr. 14: 1162.
5. Kelly, P., Weinberger, R. and **Waxham, M.N.** (1988). Active-site-directed inhibition of Ca^{++}/CaM-dependent kinase II (CK-II) by a bifunctional calmodulin-binding peptide. Soc. Neurosci. Abstr. 14: 622.
6. Weinberger, R., Aronowski, J., **Waxham, M.N.** and Kelly, P. (1988). A polyclonal antibody that specifically recognizes the calmodulin (CaM) binding domain of Ca^{++}/CaM-dependent protein kinase II (CK-II). Soc. Neurosci. Abstr. 14: 107.
7. Mauk, M.D., Kelly, P.T., Cormier, R.J., and **Waxham, M.N.** (1989). Calmodulin antagonists modulate synaptic activation of hippocampal pyramidal cells. Soc. Neurosci. Abstr. 15: 194.
8. Aronowski, J., Kelly, P., and **Waxham, N.** (1989). Expression and characterization of the 50 kDa subunit of Ca^{2+}/calmodulin-dependent protein kinase II (CK-II) in eucaryotic cells. Soc. Neurosci. Abstr. 15: 1268.

9. Kelly, P., Honeycutt, T., Weinberger, R., Blumenthal, D., Yip, R., and **Waxham, N.** (1989). Functional analysis of the calmodulin (CaM)-binding domain of CaM-kinase II (CK-II) using synthetic peptides and site-directed mutagenesis. Soc. Neurosci. Abstr. 15: 958.
10. Westgate, S.A., Kelly, P.T., and **Waxham, M.N.** (1989). Does mutagenesis of Asp-135 in Ca^{2+}/calmodulin-dependent protein kinase II (CK-II) alter substrate binding? Soc. Neurosci. Abstr. 15:681.
11. Perkel, D., Malenka, R., Kauer, J., Mauk, M., Kelly, P., Nicoll, R., and **Waxham, N.** (1989). Long-term potentiation: An essential role for postsynaptic calmodulin and protein kinase activity. Soc. Neurosci. Abstr. 15: 166.
12. Crow, T., Forrester, J., **Waxham, N.**, and Neary, J. (1989). Effect of down regulation of protein kinase C on short- term enhancement of generator potentials in Hermissenda produced by light and 5-HT. Soc. Neurosci. Abstr. 15: 1284.
13. DeGraba, T.J., Aronowski, J., **Waxham, N**., and Grotta, J. (1991). Ca^{++} influx and CaM-kinase II activity as predictor of neuronal damage. J. Cereb. Blood Flow Metab. 11(suppl. 2), S521.
14. Aronowski, J., Grotta, J.C., and **Waxham, M.N.** (1991). Translocation of Ca^{2+}/calmodulin-dependent protein kinase II (CaM-KII) after forebrain ischemia. Soc. Neurosci. Abstr. 17: 1087.
15. Hanson, S.K., Grotta, J.C., **Waxham, M.N.**, Earls, R., Strong, R., and Dafny, N. (1992). Regional depression in calcium/calmodulin dependent protein kinase II (CaM-KII) in focal ischemia. Soc. Neurosci. Abstr. 18: 1589.
16. Costantin, J.L., Mauk, M.D., and **Waxham, M.N.** (1992). Protein kinase inhibitors block the phorbol ester induced increase in calcium currents expressed by rat brain RNA in Xenopus oocytes. Soc. Neurosci. Abstr. 18: 431.
17. McVaugh, W.M. and **Waxham, M.N.** (1992). Augmentation of NMDA currents by cAMP and forskolin. Soc. Neurosci. Abstr. 18: 651.
18. Aronowski, J., Grotta, J.C., and **Waxham, N.** (1992). Block of Ca^{2+} influx during ischemia inhibits down regulation of Ca^{2+}/calmodulin-dependent protein kinase II and protein kinase C. Soc. Neurosci. Abstr. 18: 1589.
19. Hanson, S., Grotta, J., and **Waxham, N.** (1993) CaM-kinase II in focal ischemia with reperfusion. Ann. Neurol. 34, 287.
20. Costantin, J.L., Neely, A., Baldelli, P., Wei, X., **Waxham, N.**, Birnbaumer, L. and Stefani, E. (1994) Regulation of cardiac calcium channel clones by protein kinase A. Biophys. J. 66, 231.
21. Lin, X., Dotson, D.G., Hudmon, A., **Waxham, M.N.**, and Putkey, J.A. (1995) Specific blocking of the N-terminal hydrophobic regions in cTnC and CaM inhibits activation of myofibril ATPase activity. Biophys. J. 68, A365
22. Hudmon, A., **Waxham, M.N.**, Kolb, S.J., Ehses, W., Klueppelberg, U., Kolodziej, S.J., Schroeter, J.P., and Stoops, J.K. (1995) Stain cryo-electron microscopy and image analysis of alpha-Ca^{2+}/calmodulin-dependent protein kinase II. 9th International Conf. Sec. Mssgrs. and Phosphoproteins, 145.
23. **Waxham, M.N.**, Hudmon, A., Grotta, J.C., Aronowski, J., Westgate, S.A., Silva, A., Neve, R., and Kolb, S.J. (1995) Ca^{2+}/calmodulin-dependent protein kinase type II (CaM-kinase) plays an essential role in determining survival in models of neuronal injury. 9th International Conf. Sec. Mssgrs. and Phosphoproteins, 145.
24. Kim, S.A., Hudmon, A. and **Waxham, M.N.** (1998) A novel mechanism to reverse the phosphorylation of Ca^{2+}/calmoduiln-dependent protein kinase II: Autodephosphorylation. Soc. Neurosci. Abstr. 24, 862.
25. Kim, S.A., Zipfel, W., Schwille, P., Webb, W.W. and **Waxham, M.N.** (1999) Assessing local diffusion of calmodulin in neurons using multiphoton fluorescence photobleaching recovery (MPFPR) and fluorescence correlation spectroscopy (MPFCS). Mol. Biol. Cell 10, 333a.
26. Ginsberg, T.R., Neve, R.L., and **Waxham, M.N.** (1999) GAP-43 influences the dynamics of CaM kinase II activation through competition for calmodulin binding.. Mol. Biol. Cell 10, 334a.
27. Zipfel, W.R., Kim, S.A., **Waxham, M.N.**, and Webb, W.W. (2000) Local diffusion of calmodulin in neurons measured using multiphoton fluorescence photobleaching recovery (MPFPR) and fluorescence correlation spectroscopy (MPFCS). Biophys. J. 78, 392A.
28. Zhang, Y., **Waxham, M.N.**, Tsai, A.L. and Putkey, J.A. (2000) A kinetic model for differential target activation by calmodulin. Biophs. J. 78, 71A.
29. **Waxham, M.N.**, Kolodziej, S.J., Hudmon, A., Liao, W. and Stoops, J.K. (2000) Three-dimensional structures of CaM-kinase II isoforms. Soc. Neurosci. Abstr. **26**.
30. Ginsberg TR, Putkey J, **Waxham M.N.** (2000). RC3 (Neurogranin) regulates the availability of calmodulin in dendrites. *Soc. Neurosci. Abst.* 30.

31. Zipfel, W.R., Kim, S.A., **Waxham, M.N.** and Webb, W.W. (2001) Techniques for quantification of molecular mobility in cells illustrated by measurements of calmodulin diffusion in neurons. Biophys. J. 80, 615A.
32. Kim, S.A., Heinze, K.G., **Waxham, M.N.**, and Schwille, P. (2002). Assessing intracellular calmodulin dynamics using fluorescence spectroscopy techniques. The 6th International Carl Zeiss Workshop on Fluorescence Correlation Spectroscopy and Related Methods.
33. Kim, S.A., Heinze, K.G., **Waxham, M.N.**, and Schwille, P. (2002). Intracellular measurements of calmodulin and CaMKII interactions using multiphoton fluorescence cross-correlation spectroscopy (MPFCCS). Biophys. J. 82: 44a.
34. Korlach, J., Kwok, L., Kim, S.A., **Waxham, M.N.**, and Webb, W.W., Pollack, L. (2002). Measurements of rapid conformational changes of proteins in a fast laminar flow mixing device. Biophys. J. 82:25a.
35. Heinze, K.G., Kim, S.A., **Waxham, M.N.**, and Schwille, P. (2002). Two-Photon Cross-Correlation Spectroscopy (TPCCS) in Living Cells. 37th Winter Seminar in Biophysical Chemistry, Molecular Biology and Cybernetics of Cell Functions.
36. Gaertner TR, Putkey JA, **Waxham M.N.** (2002). Kinetics of calmodulin binding to RC3/neurogranin. *Soc. Neurosci. Abst.* 32.
37. Kim, S.A., Zipfel, W.R., Schwille, P., Webb, W.W., and **Waxham, M.N.** (2003). Calmodulin availability in neuronal compartments. *Soc. Neurosci. Abstr.*
38. Kim, S.A., Heinze, K.G., **Waxham, M.N.**, and Schwille, P. (2003). Deciphering calmodulin and CaM-kinase II binding dynamics by two-photon cross-correlation spectroscopy. *Biophys. J.*
39. Putkey, J.A., **Waxham, M.N.** and Kleerekoper, Q. (2003) A novel role for IQ motif calmodulin binding proteins. Biophysical Society.
40. Junge, H.J., Betz, A., Rhee, J.-S., Jahn, O., Masnour, M., Varoqueaux, F., Spiess, J., **Waxham, M.N.**, Rosenmund, C., and Brose, N. (2004) A calmodulin/munc-13 complex mediates short-term changes in synaptic efficacy. Synaptic transmission: From ion channels to neuronal network function. Gottingen, DE.
41. Iyer, V., Rossow, M.J., Saggau, P., and **Waxham, M.N.** (2004) Characterization and optmization of multiphoton excitation (MPE) instrumentation using fluorescence correlation spectroscopy. Biophs. J. 86: 607A.
42. Putkey, J.A., **Waxham, M.N.**, Gaertner, T., Kleerekoper, Q. (2004) A new role for IQ motif proteins in regulating calmodulin function. Biophys. J. 86:510A.
43. Kubota, Y., Kalantzis, G., Putkey, J.A., Shouval, H. and **Waxham, M.N.** (2005) Coarse bifurcation analysis and model reduction of the computer simulation of the postsynaptic CaMKII signaling system. Biophys. J. 88:625a.
44. Heinze, K.G., Kim, S.A., Bacia, K., **Waxham, M.N.** and Schwille, P. (2005) Quantifying molecular binding dynamics with variable stoichiometry in live cells using two-photon cross-correlation analysis. Biophys. J. 88:525A.
45. Putkey, J.A., **Waxham, M.N.**, Gaertner, T. and Kleerekoper, Q. (2006) Unstructured regulators of calmodulin signaling. Biophysical Meeting, Salt Lake City.
46. Sanabria H. Iyer, V., Kubota, Y. and **Waxham, M.N.** (2006) Single-Molecule Diffusion Studies Using Fluorescence Correlation Spectroscopy in Nanostructures. Biophysical Meeting, Salt Lake City.

B. Refereed Original Articles in Journals:

1. Server, A.C., Merz, D.C., **Waxham, M.N.**, and Wolinsky, J.S. (1982). Differentiation of mumps virus strains using monoclonal antibody to the HN glycoprotein. Infect. Immun. 35: 179-186.
2. Schwendemann, G., Wolinsky, J.S., Hatzidimitriou, G., Merz, D.C., and **Waxham, M.N.** (1982). Post-embedding immunocytochemical localization of paramyxovirus antigens by light and electron microscopy. J. Histochem. Cytochem. 30: 1313-1319.
3. Merz, D.C., Server, A.C., **Waxham, M.N.**, and Wolinsky, J.S. (1983). Biosynthesis of the mumps virus F glycoprotein: Nonfusing strains efficiently cleave the F glycoprotein precursor. J. Gen. Virol. 64: 1457-1467.
4. **Waxham, M.N.**, and Wolinsky, J.S. (1983). Immunocytochemical identification of rubella virus hemagglutinin. Virology 126: 194-203.
5. **Waxham, M. N.**, and Wolinsky, J.S. (1985). A model for the structural organization of rubella virions. Rev. Inf. Dis. 67: S133-S139.

6. Wolinsky, J.S., **Waxham, M.N.**, and Server, A.C. (1985). Protective effects of glycoprotein-specific monoclonal antibodies on the course of experimental mumps virus meningoencephalitis. J. Virol. 53: 727-734.
7. **Waxham, M.N.**, and Wolinsky, J.S. (1985). Detailed immunologic analysis of the structural polypeptides of rubella virus using monoclonal antibodies. Virology 143: 153-165.
8. Server, A.C., Smith, J.A., **Waxham, M.N.**, Wolinsky, J.S., and Goodman, H.M. (1985). Purification and amino-terminal protein sequence analysis of the mumps virus fusion protein. Virology 144: 378-383.
9. **Waxham, M.N.**, and Wolinsky, J.S. (1986). A fusing mumps virus variant selected from a nonfusing parent with the neuraminidase inhibitor 2-deoxy-2,3-dehydro-N-acetylneuraminic acid. Virology 151: 286-295.
10. deMazancourt, A., **Waxham, M.N.**, Nicolas, J.C., and Wolinsky, J.S. (1986). Antibody response to the rubella virus structural proteins in infants with the congenital rubella syndrome. J. Med. Virol. 19: 111-122.
11. **Waxham, M.N.**, Merz, D.C., and Wolinsky, J.S. (1986). Intracellular maturation of the mumps virus hemagglutinin-neuraminidase glycoprotein: Conformational changes detected with monoclonal antibodies. J. Virol. 59: 392-400.
12. **Waxham, M.N.**, Server, A.C., Goodman, H.M., and Wolinsky, J.S. (1987). Cloning and sequencing of the mumps virus fusion protein gene. Virology 159: 381-388.
13. Gonzalez-Scorano, F., **Waxham, M.N.**, Ross, A., and Hoxie, J.A. (1987). Sequence similarities between human immunodeficiency virus gp41 and paramyxovirus fusion proteins. AIDS Res. Hum. Retro. 3: 245-252.
14. Hanley, R.M., Means, A.R., Ono, T., Kemp, B.E., Burgin, K.E., **Waxham, N.**, and Kelly, P.T. (1987). Functional analysis of a complementary DNA for the 50-kilodalton subunit of calmodulin kinase II. Science 237: 293-297.
15. **Waxham, M.N.**, Aronowski, J., Server, A.C., Wolinsky, J.S., Smith, J.A., and Goodman, H.M. (1988). Sequence determination of the mumps virus HN gene. Virology 164: 318-325.
16. **Waxham, M.N.**, and Aronowski, J. (1988). Identification of amino acids involved in the sialidase activity of the mumps virus hemagglutinin-neuraminidase protein. Virology 167: 226-232.
17. Kelly, P.T., Weinberger, R.P., and **Waxham, M.N.** (1988). Active site-directed inhibition of Ca^{2+}/calmodulin-dependent protein kinase II by a bifunctional calmodulin-binding peptide. Proc. Natl. Acad. Sci. USA 85: 4991-4995.
18. **Waxham, M.N.**, Aronowski, J., and Kelly, P.T. (1989). Functional analysis of Ca^{++}/calmodulin-dependent protein kinase II expressed in bacteria. J. Biol. Chem. 264: 7477-7482.
19. Malenka, R.C., Kauer, J.A., Perkel, D.J., Mauk, M.D., Kelly, P.T., Nicoll, R.A., and **Waxham, M.N.** (1989). Long-term potentiation: An essential role for postsynaptic calmodulin and protein kinase activity. Nature 340: 554-557.
20. **Waxham, M.N.**, Aronowski, J., Westgate, S.A., and Kelly, P.T. (1990). Mutagenesis of Thr-286 in monomeric Ca^{2+}/calmodulin-dependent protein kinase II eliminates Ca^{2+}/calmodulin-independent activity. Proc. Natl. Acad. Sci. USA. 87: 1272-1277.
21. Burgin, K., **Waxham, M.N.**, Rickling, S., Westgate, S. A., Mobley, W., and Kelly P.T. (1990). In situ hybridization histochemistry of Ca^{2+}/calmodulin-dependent protein kinase II in the developing rat brain. J. Neurosci. 10: 1788-1798.
22. Crow, T., Forrester, J., Williams, M., **Waxham, M.N.**, and Neary, J.T. (1991). Down regulation of protein kinase C blocks 5-HT-induced enhancement in Hermissenda B photoreceptors. Neurosci. Lett. 121: 107-110.
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