

Curriculum Vitae

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EDUCATION

1971-1975 U. of Washington, BA Chemistry, BS Biology

1976-1981 Dartmouth College, PhD Biological Sciences.

PROFESSIONAL EXPERIENCE

1975-1976 Research Technician, Dept. of Zoology, Friday Harbor Labs, at the University of Washington, laboratory of Dr. Thomas Schroeder.

1976-1981 Graduate Student, Dept. of Biological Sciences, Dartmouth College, Hanover, NH, laboratory of Dr. David R. Burgess.

1981 Postdoctoral Fellow, Abteilung Biochemistry, Max Planck Institute for Biophysical Chemistry, Goettingen, FRG, laboratory of Dr. Klaus Weber.

1981-1984 Postdoctoral Fellow, Division of Structural Studies, Medical Research Council Laboratory of Molecular Biology, Cambridge, UK, supervisor: Dr. Alan Weeds.

1985-1989 Associate Member, Whitehead Institute for Biomedical Research and Assistant Professor of Biology, Dept. of Biology, MIT.

1989-1992 Associate Professor of Biology, Dept. of Biology, MIT.

1992- 2008 Member, Whitehead Institute for Biomedical Research

1995- 2000 Director, Program in Molecular Engineering at the MIT Center for Biomedical Engineering

1998- 2008 Professor of Biology, Dept. of Biology, MIT.

1998- 2008 Professor of Bioengineering, Department of Biological Engineering, MIT.

1999-2001 Associate Chair of the Faculty, MIT

2001-2008 Director, Whitehead Institute /MIT Center for BioImaging

2005-2013 member, Singapore-MIT Alliance 2 (SMA2) CSB Program

2005-2008 Co-Director, Singapore-MIT Alliance 2 (SMA2) CSB Program

2005-2007 Director, Computational and Systems Biology Initiative (CSBi)

2009-2014 Professor of Bioengineering, Division of Bioengineering, NUS

2009-present Professor of Biological Sciences

2009-2017 Head, Department of Biological Sciences, NUS

2009-present Director, NUS Centre for BioImaging Sciences

2009-present co-Director, MechanoBiology Institute

2009-present Faculty Member, NGS

2009-present Distinguished Professor of the University

2010-2013 Joint Appointment, University Scholars Programme

2012-present co-Investigator, SMART, BioSym

PUBLICATIONS (177)

1. Matsudaira P, Burgess DR. 1978. SDS microslab linear gradient polyacrylamide gel electrophoresis. *Anal. Biochem.* 87(2):386-396.
2. Matsudaira P, Burgess DR. 1979. Identification and organization of the components in the isolated microvillus cytoskeleton. *J. Cell. Biol.* 83(3):667-673.
3. Matsudaira P, Burgess DR. 1981. Structure and function of the brush-border cytoskeleton. *CSH Symposia on Quantitative Biology* 46:845-854.
4. Glenney JR, Kaulfus P, Matsudaira P, Weber K. 1981. F-actin binding and bundling properties of fimbrin, a major cytoskeletal protein of microvillus core filaments. *J. Biol. Chem.* 256(17):9283-9288.
5. Matsudaira P, Burgess DR. 1982. Partial reconstruction of the microvillus core bundle: characterization of villin as a Ca⁺⁺-dependent, actin-bundling/depolymerizing protein. *J. Cell. Biol.* 92(3):648-656.
6. Matsudaira P, Burgess DR. 1982. Organization of the cross-filaments in intestinal microvilli. *J. Cell. Biol.* 92(3):657-664.
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8. Matsudaira P, Mandelkow E, Renner W, Hesterberg LK, Weber K. 1983. Role of fimbrin and villin in determining the interfilament distances of actin bundles. *Nature* 301(5897):209-214.
9. Matsudaira P, Jakes R, Cameron L, Atherton E. 1985. Mapping the cysteine residues and actin-binding regions of villin by using antisera to the amino and carboxyl termini of the molecule. *PNAS* 82(20):6788-6792.
10. Matsudaira P, Jakes R, Walker JE. 1985. A gelsolin-like Ca²⁺-dependent actin-binding domain in villin. *Nature* 315(6016):248-250.
11. Matsudaira P, Bordas J, Koch MHJ. 1987. Synchrotron x-ray diffraction studies of actin structure during polymerization. *PNAS* 84(10):3151-3155.
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13. Bazari WL, Matsudaira P, Wallek M, Smeal T, Jakes R, Ahmed Y. 1988. Villin sequence and peptide map identify six homologous domains. *PNAS* 85(14):4986-4990.
14. Matsudaira P, Janmey PA. 1988. Pieces in the actin-severing protein puzzle. *Cell* 54(2):139-140.
15. Janmey PA, Matsudaira P. 1998. Functional comparison of villin and gelsolin. Effects of Ca²⁺, KCl, and polyphosphoinositides. *J. Biol. Chem.* 263(32):16738-16743.
16. Legendre N, Matsudaira P. 1988. Direct protein microsequencing from Immobilon-P Transfer Membrane. *Biotechniques* 6(2):154-159.
17. Legendre N, Matsudaira P. 1989. Purification of proteins and peptides by SDS-PAGE. *Practical Guide To Protein and Peptide Purification For Microsequencing* 49-+.
18. Ezzell RM, Chafel MM, Matsudaira P. 1989. Differential localization of villin and fimbrin during development of the mouse visceral endoderm and intestinal epithelium. *Development* 106(2):407-419.
19. Matsudaira P. 1989. A practical guide to protein and peptide purification for

- microsequencing-introduction. Practical Guide To Protein and Peptide Purification For Microsequencing 1-+.
20. Kodama T, Freeman M, Rohrer L, Zabrecky J, Matsudaira P, Krieger M. 1990. Type I macrophage scavenger receptor contains alpha-helical and collagen-like coiled coils. *Nature* 343(6258):531-535.
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 23. Dearruda MV, Watson S, Lin CS, Leavitt J, Matsudaira P. 1990. Fimbrin is a homolog of the cytoplasmic phosphoprotein plastin and has domains homologous with calmodulin and actin gelation proteins. *J. Cell. Biol.* 111(3):1069-1079.
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 25. Collins K, Sellers JR, Matsudaira P. 1990. Calmodulin dissociation regulates brush-border myosin I (110-kD-calmodulin) mechanochemical activity invitro. *J. Cell. Biol.* 10(4):1137-1147.
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 27. Collins K, Matsudaira P. 1991. Differential regulation of vertebrate myosins I and II. *J. Cell Sci. Suppl.* 11-16.
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