

Services Provided by the Biophysics Resource Contributed to at Least 46 Publications (28 from Yale)

(Publications sorted by technology and listed in chronological order)

[SEC/LS] and Dynamic LS

1. E. Folta-Stogniew and K.R. Williams (1999) "Determination of molecular masses of protein: implementation of a size exclusion chromatography/laser light scattering service in a core laboratory." *J. Biomol. Techniques*, **10**, 51-63.
2. P. D. Zamore, D. P. Bartel, R. Lehmann and J. R. Williamson (1999) "The PUMILIO-RNA Interaction: A Single RNA-Binding Domain Monomer Recognizes a Bipartite Target Sequence" *Biochemistry* **38**, 596-604
3. K. J. Lampi, J. T. Oxford, H. Bachinger, T. R. Shearer, L. L. David and D. M. Kapfer (2002) "Deamidation of Human β B1 Alters the Elongated Structure of the Dimer" *Exp. Eye Res.* **72**, 279-288
4. S. A. Robson, K. A. Michie, J. P. Mackay, E. Harry and G. F. King (2002) "The *Bacillus subtilis* cell division proteins FtsL and DivIC are intrinsically unstable and do not interact with one another in the absence of other septasomal components" *Molecular Microbiology* **44**(3), 663–674
5. M. L. Bovee, K. S. Champagne, B. Demeler and C. S. Francklyn (2002) "The Quaternary Structure of the HisZ-HisG N-1-(5'-Phosphoribosyl)-ATP Transferase from *Lactococcus lactis*" *Biochemistry*, **41**, 11838-11846
6. T. Makagiansar, P. D. Nguyen, A. Ikesue, K. Kuczera, W. Dentler, J. L. Urbauer, N. Galeva, M. Alterman and T. J. Siahaan (2002) "Disulfide Bond Formation Promotes the cis- and trans-Dimerization of the E-cadherin-derived First Repeat" *J. Biol. Chem.* **277**, 16002–16010
7. G. P. Bertenshaw, M. T. Norcum and J. S. Bond (2003) "Structure of Homo- and Hetero-oligomeric Meprin Metalloproteases" *J. Biol. Chem.* **278**, 2522–2532
8. Fraser, G. M.; Gonzalez-Pedrajo, B.; Tame, J. R.H.; Macnab, R. M. (2003) "Interactions of FliJ with the Salmonella Type III Flagellar Export Apparatus" *The Journal of Bacteriology*, **185**, 5546-5554
9. C. Keeler, P. S. Dannies and M. E. Hodsdon (2003) "The Tertiary Structure and Backbone Dynamics of Human Prolactin" *J. Mol. Biol.* **328**, 1105–1121
10. Mitic, L. L.; Unger, V. M.; Anderson, J. M. (2003) "Expression, solubilization, and biochemical characterization of the tight junction transmembrane protein claudin-4." *Protein Science*, **12**, 218-227

11. D. Yernool, O. Boudker, E. Folta-Stogniew and E. Gouaux (2003) " Trimeric Subunit Stoichiometry of Glutamate Transporters." *Biochemistry*, **42**, 12981-12988.
12. T. H. Scheuermann, E. Lolis and M. E. Hodsdon (2003) "Tertiary Structure of Thiopurine Methyltransferase from *Pseudomonas syringae*, a Bacterial Orthologue of a Polymorphic, Drug-metabolizing Enzyme" *J. Mol. Biol.* **333**, 573–585
13. Bruderer, R. M.; Brasseur, C.; Meyer, H. H. (2004) "The AAA ATPase p97/VCP Interacts with Its Alternative Co-factors, Ufd1-Npl4 and p47, through a Common Bipartite Binding Mechanism." *J. Biol. Chem.*, **279**, 49609-49616
14. Minamino, T.; Saijo-Hamano, Y.; Furukawa, Y.; Gonzalez-Pedrajo, B.; Macnab, R. M.; Namba, K. (2004) "Domain Organization and Function of Salmonella FliK, a Flagellar Hook-length Control Protein." *J. Mol. Biol.*, **341**, 491-502
15. Y. Wang and Ha, Ya (2004) "The X-Ray Structure of an Antiparallel Dimer of the Human Amyloid Precursor Protein E2 Domain" *Mol. Cell* **15**, 343-353
16. M. E. Hahn and Muir TW (2004) "Photocontrol of Smad2, a multiphosphorylated cell-signaling protein, through caging of activating phosphoserines" *Angew. Chem. Int. Ed. Engl.* **43**, 5800-5803.
17. Thorne, M. E.; McQuade, K. L. (2004) "Heat-induced oligomerization of gp96 occurs via a site distinct from substrate binding and is regulated by ATP" *Biochemical and Biophysical Research Communications*, **323**, 1163-1171
18. Chang, J.; Chen, J.; Zhou, D. (2005) "Delineation and characterization of the actin nucleation and effector translocation activities of Salmonella SipC." *Mol. Microbiol.*, **55**, 1379-1389
19. Yu, I-Mei, Gustafson, C. L. T., Jianbo, D., Burgner, J.W., Li, Z., Zhang, J. and Chen, J. (2005) "Recombinant Severe Acute Respiratory Syndrome (SARS) Coronavirus Nucleocapsid Protein Forms a Dimer through Its C-terminal Domain", *J. Biol. Chem.*, **280**, 23280-23286
20. Folta-Stogniew, E. (2006) "Oligomeric States of Proteins Determined by Size-Exclusion Chromatography Coupled with Light Scattering, Absorbance and Refractive Index Detectors", Humana Press, *Methods in Molecular Biology*, Nedelkov and Randall editors, **328**, 97-112
21. Bunce, J.; Achila, D.; Hetrick, E.; Lesley, L.; Huffman, D. L. (2006) "Copper Transfer Studies between the N-terminal Copper Binding Domains One and Four of Human Wilson Protein.", *Biochim. Biophys. Acta*, **1760**, 907-912
22. Robles Lopez, SM, Hortua Triana, MA and Barbara H. Zimmermann (2006) "Cloning and preliminary characterization of the dihydroorotase from *Toxoplasma gondii*", *Mol. and Biochem. Parasitology*, **148**, 93-98

23. Stavropoulos, P, Blobel, G., Hoelz, A. (2006) "Crystal structure and mechanism of the human lysine-specific demethylase LSD1." *Nature Structural and Molecular Biology*, **13**, 626-632
24. Nelson, D., Schuch, R., Chahales, P. Zhu, S., Fischetti, V.A. (2006) "PlyC: the First Multimeric Bacteriophage Lysin." *Proc. Natl. Acad. Sci. U.S.A.* **103**, 10765-10770
25. Albright, R.A., Vazquez Ibar, J.-L., Kim, C. U., Gruner, S.M., Morais Cabral, J.H. (2006) "Multiple conformations of the octameric ring structure of a RCK domain from a KtrAB K⁺ transporter" *Cell* **126** (6), 1147-1159
26. Ramsey, J.E., Daugherty, M. A., Kelm, R. J. (2007) "Hydrodynamic Studies on the Quaternary Structure of Recombinant Mouse Pur β " , *J Biol Chem*, **282**, 1552-1560
27. Li X, Pal U., Ramamoorthi N., Liu X., Desrosiers D. C., Eggers C., Anderson J. F., Radolf J. D., and Fikrig E. (2007) The Lyme disease agent *Borrelia burgdorferi* requires BB0690, a Dps homologue, to persist within ticks. *Molecular Microbiology* **63**: 694-710
28. Fogel A I, Akins M. R., Krupp A. J., Stagi M., Stein V., and Biederer T. (2007) SynCAMs Organize Synapses through Heterophilic Adhesion. *Journal of Neuroscience* **27**: 12516-12530
29. Albright R A, Joh K., and Morais-Cabral J. H. (2007) Probing the Structure of the Dimeric KtrB Membrane Protein. *Journal of Biological Chemistry* **282**: 35046-35055
30. Chang J, Myeni S. K., Lin T. L., Wu C. C., Staiger C. J., and Zhou D. (2007) SipC multimerization promotes actin nucleation and contributes to Salmonella-induced inflammation. *Mol Microbiol.* **66**: 1548-1556
31. Crichlow, G. V., Zhou, H., Hsiao, H-h., Frederick, K. B., Debrosse, M., Yuande Yang, Y., Folta-Stogniew, E. J., Chung, H-J., Chengpeng Fan, C., De La Cruz, E., Levens, D., Lolis, E., and Braddock, D. (2008) "Dimerization of FIR upon FUSE binding suggests a mechanism of c-myc inhibition", *EMBO J* **27**: 277-289
32. Petersson E J and Schepartz A. (2008) Toward beta-Amino Acid Proteins: Design, Synthesis, and Characterization of a Fifteen Kilodalton beta;-Peptide Tetramer. *Journal of the American Chemical Society* **130**: 821-823

Stopped-Flow

33. E. Folta-Stogniew, S. O'Malley, R. Gupta, K. S. Anderson and C. M. Radding (2004) "Exchange of DNA Base Pairs that Coincides with Recognition of Homology Promoted by *E. coli* RecA Protein." *Mol. Cell*, **15**, 965-975

34. Purohit V, Grindley ND, Joyce CM (2003) "Use of 2-Aminopurine Fluorescence To Examine Conformational Changes during Nucleotide Incorporation by DNA Polymerase I (Klenow Fragment)" *Biochemistry*, **42**, 10200-11
35. Marlovits TC, Haase W, Herrmann C, Aller SG, Unger VM: The membrane protein FeoB contains an intramolecular G protein essential for Fe(II) uptake in bacteria. *PNAS* 2002, **99**:16243-16248.

SLM8000- Fluorometer

36. Bazemore LR, Takahashi M, Radding CM. (1997) "Kinetic analysis of pairing and strand exchange catalyzed by RecA. Detection by fluorescence energy transfer" *J Biol Chem.* **272**, 14672-82
37. Bazemore LR, Folta-Stogniew E, Takahashi M, Radding CM. (1997) "RecA tests homology at both pairing and strand exchange" *Proc Natl Acad Sci U S A.* **94**, 11863-8
38. Gupta RC, Golub EI, Wold MS, Radding CM. (1998) "Polarity of DNA strand exchange promoted by recombination proteins of the RecA family" *Proc Natl Acad Sci U S A.* **95**, 9843-8
39. Gupta RC, Folta-Stogniew E, Radding CM. (1999) "Human Rad51 protein can form homologous joints in the absence of net strand exchange." *J Biol Chem.* **274**, 1248-56
40. Gupta RC, Folta-Stogniew E, O'Malley S, Takahashi M, Radding CM (1999) *Mol Cell.* **4**, 705-14

ITC

41. Morgan JR, Di Paolo G, Werner H, Schedrina VA, Pypaert M, Pieribone V, and De Camilli P. 2004. A role for talin in presynaptic function. *J. Cell Biol.* **167**: 43-50.
42. Lee SY, Voronov S, Letinic K, Nairn AC, Di Paolo G, and De Camilli P. 2005. Regulation of the interaction between PIPKI(γ) and talin by proline-directed protein kinases. *J. Cell Biol.* **168**: 789-799.
43. Benach, J., Swaminathan, S. J., Tamayo, R., Handelman, S., Folta Stogniew, E. Ramos, J. E., Forouhar, F., Neely, H., Jayaraman Seetharaman, J., Camilli, A., and Hunt, J. F., (2007) "The structural basis of cyclic diguanylate signal transduction by PilZ domains", *EMBO J.*, **26**: 5153-5166

44. Erdmann K S, Mao Y., McCrea H. J., Zoncu R., Lee S., Paradise S., Modregger J., Biemesderfer D., Toomre D., and De Camilli P. (2007) A Role of the Lowe Syndrome Protein OCRL in Early Steps of the Endocytic Pathway, *Developmental Cell* **13**: 377-390

MALDI MS/TOF open access

45. Mahajan MC, Narlikar GJ, Boyapaty G, Kingston RE, Weissman SM (2005) "Heterogeneous nuclear ribonucleoprotein C1/C2, MeCP1, and SWI/SNF form a chromatin remodeling complex at the beta-globin locus control region" *Proc Natl Acad Sci U S A.* **102**, 15012-7

SPR

46. Piermarini, P. M., Kim, E. Y., Boron, W. F. (2007) "Evidence Against a Direct Interaction Between Intracellular Carbonic Anhydrase II and Pure C-terminal Domains of SLC4 Bicarbonate Transporters" *J. Biol. Chem.* **282**, 1409-1421