

Clarence E. Schutt

Publication List

- Lassing, I., Hillberg, L., Hoglund, A-S, Karlsson, R., Schutt, C.E., and Lindberg, U. "Tropomyosin is a tetramer under physiological salt conditions", *Cytoskeleton* 67(9): 599-607 (2010).
- Ball, J.M., Parr, R.D., and Schutt, C.E. "Analysis of Rotavirus NSP4 Genetic Groups, Structure, and Function", Chapter 18: Segmented Double-Stranded Rna Viruses: Structure and Molecular Biology, Patton, John F., Editor, Horizon Scientific Press (2008).
- Lovelace, J.J., Murphy, C.R., Daniels, L., Narayan, K., Schutt, C.E., Lindberg, U., Svensson, C., Borgstahl, G.E.O. "Protein Crystals can be Incommensurately Modulated", *J. Appl. Cryst.* 41:600-605 (2008).
- Lindberg U., Karlsson, R., Lassing, I., Schutt, C.E., Hoglund, A-S, "The Microfilament System and Malignancy", *Seminars in Cancer Biology* 18: 2-11 (2008).
- Lassing, I., Schmitzberger, F., Bjornstedt, M., Holmgren, A., Nordlund, P., Schutt, C., Lindberg, U. "Molecular and Structural Basis for Redox Regulation of β -actin", *J. Mol. Biol.*, 370:331-348 (2007).
- Schuler, H., Karlson, R., Schutt, C.E., and Lindberg, U. "The Connection Between Actin ATPase and Polymerization", *Advances in Molecular and Cell Biology*, 37:49-66 (2006).
- Hillberg, L., Rathje, L-S.Z, Nyakern-Meazza, M., Helfand, B., Goldman, R.D., Schutt, C.E., Lindberg, U. "Tropomyosins are present in lamellipodia of motile cells", *Eur. J. Cell Biol.* 85: 399-409 (2006).
- Lovelace, J.J., Narayan, K., Chik, J.K., Bellamy, H.D., Snell, E.H., Lindberg, U., Schutt, C.E., Borgstahl, G.E.O. "Imaging modulated reflections from a semi-crystalline state of profilin: actin crystals." *J. of Appl. Cryst.* 37: 327-30 (2004).
- Narayan, K., S. Chumnarnsilpa, H. Choe, E. Irobi, D. Urosev, U. Lindberg, C. E. Schutt, L. D. Burtnick and R. C. Robinson. "Activation in isolation: exposure of the actin-binding site in the C-terminal half of gelsolin does not require actin." *FEBS Lett* 552(2-3): 82-5 (2003).
- Springs, S. L., S. E. Bass, G. Bowman, I. Nodelman, C. E. Schutt and G. L. McLendon. "A multigeneration analysis of cytochrome b(562) redox variants: evolutionary strategies for modulating redox potential revealed using a library approach." *Biochemistry* 41(13): 4321-8 (2002).

- Nyman, T., R. Page, C. E. Schutt, R. Karlsson and U. Lindberg. "A cross-linked profilin-actin heterodimer interferes with elongation at the fast-growing end of F-actin." *J Biol Chem* **277**(18): 15828-33 (2002).
- Nyman, T., H. Schuler, E. Korenbaum, C. E. Schutt, R. Karlsson and U. Lindberg. "The role of MeH73 in actin polymerization and ATP hydrolysis." *J Mol Biol* **317**(4): 577-89 (2002).
- Nyakern-Meazza, M., K. Narayan, C. E. Schutt and U. Lindberg. "Tropomyosin and gelsolin cooperate in controlling the microfilament system." *J Biol Chem* **277**(32): 28774-9 (2002).
- Chakrabarti, R. and C. E. Schutt. "Novel sulfoxides facilitate GC-rich template amplification." *Biotechniques* **32**(4): 866-74 (2002).
- Chakrabarti, R. and C. E. Schutt. "The enhancement of PCR amplification by low molecular-weight sulfones." *Gene* **274**(1-2): 293-8 (2001).
- Chakrabarti R, Schutt CE. "The enhancement of PCR amplification by low molecular weight amides." *Nucleic Acids Res*, **29**(11):2377-81 (2001).
- Bowman GD, Nodelman IM, Levy O, Lin SL, Tian P, Zamb TJ, Udem SA, Venkataraghavan B, Schutt CE. "Crystal structure of the oligomerization domain of NSP4 from rotavirus reveals a core metal-binding site." *J Mol Biol*, **304**(5):861-71 (2000).
- CE Schutt and U. Lindberg. "The New Architectonics: An Invitation to Structural Biology" *Anat Rec (New Anat)*, **261**:198-216 (2000).
- GD Bowman, IM Nodelman, Y. Hong, N. Chua, U. Lindberg & CE Schutt. "A Comparative Structural Analysis of the ADF/Cofilin Family" *Proteins*, **41**:374-384 (2000).
- H. Schuler, CE Schutt, U. Lindberg & R. Karlsson. Covalent binding of ATPγS to the nucleotide-binding site in S14C-actin. *FEBS Letters*, **476**(3):155-9 (2000).
- H. Schuler, M. Nyakern, C.E. Schutt, U. Lindberg & R. Karlsson. "Mutational Analysis of Arginine-177 in the Nucleotide-binding site of b-actin" *European Journal of Biochemistry*, **267**(13):4054-62 (2000).
- U. Lindberg & C.E. Schutt. "Actin-binding Proteins". *Encyclopedia of Molecular Biology*. (T. Creighton, Ed). John Wiley and Sons, Inc. (1999).
- H. Schuler, H., U. Lindberg, C.E. Schutt & R. Karlsson. "Stabilities of actin isoforms. Thermal Unfolding of G-actin Monitored with the Dnase I-inhibition Assay. *European Journal of Biochemistry*, **267**(2):476-86 (1999).

- I. Nodelman, G. Bowman, U. Lindberg & C.E. Schutt. "X-ray Structure Determination of Human Profilin II: A Comparative Structural Analysis of Human Profilins". *Journal of Molecular Biology*, **294**, 1271-1285 (1999).
- C. Kreatsoulas, U. Lindberg & C.E. Schutt, "Nouveau Regard sur le Muscle". *Les Cahiers de Science & Vie*. **53**: 78-87 (1999).
- H. Schuler, E. Korenbaum, C.E. Schutt, U. Lindberg. & R. Karlsson, "Mutational Analysis of Serine-14 and Aspartic Acid-157 in the Nucleotide Binding Site of b-actin". *European Journal of Biochemistry*, **265**, 210-220 (1999).
- E. Korenbaum, P. Nordberg, C. Björkegren-Sjögren, C. E. Schutt, U. Lindberg, R. Karlsson, "The Role of Profilin in Actin Polymerization and Nucleotide Exchange," *Biochemistry*, **37**, 9274-9283 (1998).
- E. Korenbaum, P. Nordberg, C. Björkegren-Sjögren, C. E. Schutt, U. Lindberg, R. Karlsson, "The Role of Profilin in Actin Polymerization and Nucleotide Exchange," *Biochemistry*, **37**, 9274-9283 (1998).
- R. Page, U. Lindberg and C. E. Schutt, Domain Motions in Actin," *Journal of Molecular Biology*, **280**, 463-474 (1998).
- C. Schutt And U. Lindberg, "Muscle Contraction as a Markov Process," *Acta Physiological Scandanavica*, **163**, 307-324 (1998).
- C. E. Schutt, C. Kreatsoulas, R. Page, and U. Lindberg, "In Reply", *Nature Structural Biology*, **4**, 684 (1997).
- C. E. Schutt, C. Kreatsoulas, R. Page, and U. Lindberg, "Plugging into Actin's Architectonic Socket," *Nature Structural Biology*, **4**, 169-172 (1997).
- L. Tong, D. M. Ho, N. J. Vogelaar, C. E. Schutt and R. A. Pascal, Jr., "The Albatrossenes: Large, Cleft-Containing, Polyphenyl Polycyclic Aromatic Hydrocarbons." *J. Am. Chem. Soc.*, **119**, 7291-7302 (1997).
- K. S. Thorn, H. E. M. Christensen, R. Shigeta, Jr., D. Huddler, Jr., L. Shalaby, U. Lindberg, N.-H. Chua, C. E. Schutt, "The Crystal Structure of a Major Allergen from Plants," *Structure*, **5**, 19-32 (1997).
- J. K. Chik, U. Lindberg, C. Schutt, "The Structure of an Open State of b-actin at 2.65 Å Resolution," *Journal of Molecular Biology*, **263**, 607-623 (1996).
- X. Qiao, M. A. Padula, D. M. Ho, N. J. Vogelaar, C. E. Schutt and R. A. Pascal, Jr., "Octaphenylanthracene and Decaphenylanthracene," *J.A.C.S.*, **118**, 741-745 (1996).
- C. E. Schutt, M. D. Rozycki, J. C. Myslik and U. Lindberg, "A Discourse on Modeling F-actin," *Journal of Structural Biology*, **115**, 186-198 (1995).

- G. Pinaev, C. E. Schutt, U. Lindberg, "The Effect on Actin ATPase of Phalloidin and Tetramethylrhodamine Phalloidin," *FEBS Letters*, **369**, 144-148 (1995).
- M. D. Rozycki, J. K. Chik, U. Lindberg and C. Schutt, "Crystallographically Observed Conformational Changes and Sulfhydryl Reactivity in Actin," *Biophysical J.*, **68**, 367s (1995).
- C. Schutt, M. Rozycki, J. Chik, U. Lindberg, "Structural Studies on the Ribbon-to-Helix Transition in Profilin: Actin Crystals," *Biophysical J.*, **68**, 12s-18s (1995).
- R. Susnow, C. Schutt, H. Rabitz, "Principal component analysis of dipeptides," *Journal of Computational Chemistry*, **15**, 963-980 (1994).
- R. Susnow, C. E. Schutt, H. Rabitz, S. Subramanian, "Conformational Study of Dipeptides - A Sensitivity Analysis Approach", *Journal of Computational Chemistry*, **15**, 947-962 (1994).
- E. S. Cedergren-Zeppezauer, N. C. W. Goonesekere, M. D. Rozycki, J. C. Myslik, Z. Dauter, U. Lindberg, C. E. Schutt, "Crystallization and Structure Determination of Bovine Profilin at 2.0 Å Resolution," *J. Mol. Biol.*, **24**, 459-475 (1994).
- C. E. Schutt, M. D. Rozycki, U. Lindberg, "What's the Matter with the Ribbon?" *Current Biology*, **4**, 185-186 (1994).
- R. Shigeta Jr., K. Forest, L. Yan, D. Kahne, and C. Schutt, "The Isomorphous Binding of Mercury-Substituted Thio-Saccharides to Pertussis Toxin Crystals Yields Crystallographic Phases," *Acta Crystallographica*, **D50**, 71-74 (1994).
- M. Rozycki, J. Myslik, C. Schutt, and U. Lindberg, "Structural Aspects of Actin Binding Proteins," *Current Opinion in Cell Biology*, **6**, 87-95 (1994).
- C. Björkegren, M. Rozycki, C. E. Schutt, U. Lindberg, and R. Karlsson, "Mutagenesis of Human Profilin Locates Its Poly (L-Proline)-Binding Site", *FEBS Letters*, **33**, 123-126 (1993).
- C. E. Schutt, J. C. Myslik, M. D. Rozycki, N. Goonesekere and U. Lindberg, "The Structure of Crystalline Profilin: b-Actin", *Nature*, **365**, 810-816 (1993).
- P. Aspenström, C. Schutt, U. Lindberg, R. Karlsson, "Mutations in b-actin: Influence on Polymer Formation and on Interactions with Myosin and Profilin", *FEBS Letters*, **329**, 163-170 (1993).
- C. Schutt and U. Lindberg, "A New Perspective on Muscle Contraction", *FEBS Letters*, **325**, 59-62 (1993).
- K. Forest, R. Shigeta, C. Schutt, D. Winkelmann, and J. Gotto, "Electron Crystallography of Pertussis Toxin," Witholt et al., (Eds.), in *Bacterial Protein Toxins*, Zbl. Bakt. Suppl. 23, Gustav Fischer, Stuttgart, Jena, New York, 304-305 (1992).

- M. Raghavan, U. Lindberg and C. E. Schutt, "The Use of Alternative Substrates in the Characterization of Actin and Carnosine Methylating Enzymes," *European Journal of Biochemistry*, **210**, 311-318 (1992).
- C. E. Schutt and U. Lindberg, "Fishing deep beneath the shallow water," *Current Biology*, **2**, 563-564 (1992).
- K. Forest and C. E. Schutt, "Protein Engineering for Structure Determination," *Current Opinion in Structural Biology*, **2**, 576-581 (1992).
- J. Krueger, J. Stock and C. E. Schutt, "Evidence that the Methyltransferase of Bacterial Chemotaxis may be a Serine Hydrolase", *Biochim. Biophys. Acta.*, **1119**, 322-326 (1992).
- V. Raghunathan, P. C. Mowery, M. D. Rozycki, U. Lindberg and C. E. Schutt, "Structural Changes in Profilin Accompany its Binding to Phosphatidylinositol 4,5-Bisphosphate", *FEBS Letters*, **297**, 46-50 (1992).
- R. Susnow, R. B. Nachbar, C. E. Schutt and H. Rabitz, "The Study of Amide Structure Through Sensitivity Analysis", *J. Phys. Chem.*, **95**, 10662-10676 (1992).
- C. E. Schutt and U. Lindberg, "Actin as the Generator of Tension during Muscle Contraction", *P.N.A.S.*, **89**, 319-323 (1992).
- R. Susnow, R. B. Nachbar Jr., C. E. Schutt and H. Rabitz, "The Sensitivity of Molecular Structure to Intramolecular Potentials", *J. Phys. Chem.*, **95**, 8585-8597 (1991).
- C. E. Schutt, U. Lindberg, and J. Myslik, "Actin in Ribbons," *Nature*, 508 (1991) (Scientific correspondence).
- C. E. Schutt and U. Lindberg, "Scratching the Back of the Cortex," *Current Biology*, **4**, 257-258 (1991).
- N. J. Vogelaar, U. Lindberg, and C. E. Schutt, "Crystallization and Preliminary X-ray Analysis of Gc, the Vitamin D-Binding Protein in Serum" *J. Mol. Biol.*, **220**, 545-547 (1991).
- D. M. Bollag, P. Seddon, P. Bohlen, Y. Gluzman and C. E. Schutt, "Preliminary X-ray Crystallographic Analysis of a Modified Basic Fibroblast Growth Factor", *J. Mol. Biol.*, **218**, 493-494 (1991).
- M. Rozycki, C. E. Schutt and U. Lindberg, "Affinity Chromatography-based Purification of Profilin-Actin", *Methods in Enzymology*, **196**, 100-118 (1991).
- M. Raghavan, J. W. Gotto, J. V. Scott and C. E. Schutt, "Preliminary X-ray Crystallographic Analysis of Holotoxin from Bordetella Pertussis", *J. Mol. Biol.*, **213**, 411-414 (1990).

- J. K. Krueger, A. M. Stock, C. E. Schutt, C. E., J. B. Stock "Inclusion Bodies from Proteins Produced at High Levels in E. Coli" in Protein Folding, (ed. L. M. Gierasch and J. King) Amer. Assoc. for the Adv. Science, (1990) pp. 136-143.
- C. E. Schutt, M. U. Lindberg, J. Myslik, and N. Strauss, "Molecular Packing in Profilin:Actin Crystals and its Implications", *J. Mol. Biol.*, **209**, 735-746 (1989).
- M. Raghavan, C. K. Smith, C. E. Schutt, "Analytical Determination of Methylated Residues in Actin", *Anal. Biochem.*, **178**, 194-197 (1989).
- J. K. Krueger, M. H. Kulke, C. E. Schutt, and J. B. Stock, "Protein Inclusion Body Formation and Purification", *Biopharm. Manufacturing*, **2**, 40-45 (1989).
- A. M. Stock, J. M. Mottonen, J. B. Stock and C. E. Schutt, "Three-dimensional Structure of CheY, the response regulator of bacterial chemotaxis", *Nature*, **337**, 745-749 (1989).
- J. J. Wendoloski, S. Kimatian, C. E. Schutt and F. R. Salemme, "Molecular Dynamics Simulation of a Phospholipid Micelle", *Science*, **243**, 636-638 (1989).
- C. E. Schutt and U. Lindberg, "The Nature of the Actin Molecule", *Molecular Mechanisms in Muscular Contraction*, (J. Squire, ed.) MacMillan Press, London (1989) pp. 49-63.
- C. E. Schutt, "Protein Structure: What's left out tells the story", *Nature*, **334**, 381-382 (1988).
- A. M. Stock, D. C. Wylie, J. M. Mottonen, A. N. Lupas, E. G. Ninfa, A. J. Ninfa, C. E. Schutt and J. B. Stock, "Phospho-Proteins Involved in Bacterial Signal Transduction", *Cold Spring Harbor Symposium on Quantitative Biology on "Sensory Signal Transduction"* **53**, 49-57 (1988).
- U. Lindberg, C. E. Schutt, E. Hellsten, A. C. Tjader and T. Hult. "The Use of Poly L-Proline-Sepharose in the Isolation of Profilin and Profilactin Complexes", *Biophys. Biochim. Acta*, **967**, 391-400 (1988).
- C. E. Schutt, "Muscle Regulation: Movement on the Aufbaubahn", *Nature*, **325**, 757-758 (1987).
- Clarence E. Schutt, "The Calchemists", *Nature*, **325** (1987). (Comment)
- C. Schutt, N. Strauss, K. Morikawa, Uno Lindberg, "Crystallographic Studies on the Profilin:actin Complex" in "The 11th Taniguchi International Symposium: Actin, Its Structure and Functions". Edited by T. Yanagida, University of Tokyo Press, 10-17 (1986).
- C. Schutt and P. Evans, "Relative Absorption Corrections for Rotation Films, *Acta Cryst.*, **A41**, 568-570 (1985).

- C. Schutt, "Hands on the Calcium Switch", *Nature*, **315**, 15 (1985).
- C. Schutt, N. Strauss, U. Lindberg, "Crystallographic Studies of the Profilin: actin Complex", *J. Mus. Res. Cell. Mot.*, Vol. **6** (5) 668, (1985).
- S. C. Harrison, C. E. Schutt, F. Winkler and R. Durbin, "Data Collection from Very Large Crystalline Structures", *Methods in Enzymology* Vol. **114**, 211 (1985).
- J. D. Harvey, A. R. Bellamy, W. C. Earnshaw and C. Schutt, "Biophysical Studies of Reovirus Type 3, IV. Low -Angle X-ray Diffraction Studies" *Virology*, **112**, 240-249 (1981).
- J. P. Langmore and C. E. Schutt, "Low-Angle X-ray Scattering from Chromatin", *Nature*, **291**, 359 (1981).
- J. P. Langmore and C. E. Schutt, "The Higher Order Structure of Chicken Erythrocyte Nuclei in vivo", *Nature*, **288**, 620-622 (1980).
- F. K. Winkler, C. E. Schutt and S. C. Harrison, "The Oscillation Method for Very Large Unit Cells", *Acta Cryst.*, **A35**, 901-911 (1979).
- S. C. Harrison, A. J. Olson, C. E. Schutt and F. K. Winkler, "Tomato Bushy Stunt Virus at 2.9 Å Resolution", *Nature*, **276**, 368-373 (1978).
- F. K. Winkler, C. E. Schutt, S. C. Harrison and G. Bricogne, "Tomato Bushy Stunt Virus at 5.5 Å Resolution", *Nature*, **265**, 509-513 (1977).
- C. Schutt and F. K. Winkler, "The Oscillation Method for Very Large Unit Cells" in *The Rotation Method in Crystallography*, Eds., Arndt & Wonacott, (North-Holland, 1977), pp. 173-185.
- J. S. Mattson and C. E. Schutt, "Application of Digital Minicomputers to Colour Matching" in *Laboratory Systems and Spectroscopy*, Eds., Mattson and Mark, Vol **5**, (Marcel Dekker, Inc., 1977), pp. 141-155.
- J. S. Mattson, Harry B. Mark, Jr., A. Prostack and C. E. Schutt, "Potential Application of an Infra-red Spectroradiometer for Remote Detection and Identification of Oil Slicks on Water", *Env. Sci. & Tech.*, **5**, 415-419 (1971).
- J. S. Mattson, Harry B. Mark, Jr., R. L. Kolpack and C. E. Schutt, "A Rapid, Nondestructive Technique for Infra-red Identification of Crude Oils by Internal Reflexion Spectrometry", *Anal. Chem.*, **42** 234-237 (1970).