

**THEODORE W. THANNHAUSER, Protein Chemist, Robert W. Holley Center for
Agriculture & Health, USDA-ARS, Ithaca, New York**

PROFESSIONAL EXPERIENCE:

January 2003-present: Protein Chemist, Robert W. Holley Center for Agriculture and Health, USDA-ARS, Ithaca, New York
January 1997-January 2003: Director, Biotechnology Resource Center, Center for Advanced Technology, Cornell Biotechnology Program, Ithaca, New York.
July 1984-January 1997: Director, Analytical Chemistry and Peptide/DNA Synthesis Facility, Cornell Biotechnology Program, Ithaca, New York.
July 1982-July 1984: Research Specialist, Department of Chemistry, Cornell University.
July 1977-July 1982: Research Technician, Department of Chemistry, Cornell University.
October 1974-July 1977: Sr. Laboratory Tech., Department of Chemistry, Cornell University.

CURRENT PROFESSIONAL ACTIVITIES:

Membership: American Chemical Society; Association of Biomolecular Resource Facilities; American Society for Mass Spectrometry; Federation of American Societies for Experimental Biology; Protein Society

PROFESSIONAL SERVICE:

Association of Biomolecular Resource Facilities:

3/97-1/02: DNA Sequencing Research Group, Chair 3/99-4/00

4/00-1/02: Nucleic Acid Research Group (ad hoc)

4/00-9/08: Web Site Committee, Chair 4/00-1/02

1/01-present: Membership Committee

1/04-7/08: Corporate Relations Committee

1/00-2004: Board of Directors

Federation of American Societies of Experimental Biology:

6/05-6/09: Science Policy Committee

5/07-6/09: Biosecurity/Dual Use Research Subcommittee

6/08-6/09: International Issues Subcommittee (Chair)

Cornell Life Science Initiative Task Force:

6/98-5/00: Technology Innovation Subcommittee

9/99-9/00: Genomics Colloquium Subcommittee

5/00-1/08: Life Science Technologies Building Committee

Chair: Facilities Subcommittee

6/08-present: Proteomics & Mass Spectrometry Oversight Committee

Meetings Organized:

Northeast Life Science Core Directors Meeting: 2006, 2007, 2008, 2009

Annual Meeting of the Association of Biomolecular Resource Facilities: 2008, 2009

The New York State Proteomics Meeting: 2003

EDUCATION:

Ph. D., Chemistry, 1996, Cornell University, Ithaca, New York

M. S., Chemistry, 1990, Cornell University, Ithaca, New York

B. A., Biology, 1974, SUNY @ Cortland, Cortland, New York

PATENTS:

Vision, Todd J., Carmon, Amber, **Thannhauser, Theodore W.**, Kresovich, Stephen, Mitchell, Sharon E., and Muller, Uwe R. (2003) Solid phase detection of nucleic acid molecules, United States Patent 20030148284.

PUBLICATIONS:

- M. Cilia, T. Fish, X. Yang, M. McLaughlin, **T. W. Thannhauser** & S. Gray (2009) A comparison of protein extraction methods suitable for gel-based proteomic studies of aphid proteins, *Journal of Biomolecular Techniques*, **20**:201-215.
- Xin Zhou, Youxi Yuan, Yong Yang, Michael Rutzke, **Theodore W. Thannhauser**, Leon V. Kochian & Li Li, (2009) Involvement of Broccoli COQ5 Methyltransferase in the Production of volatile selenium Compounds, *Plant Physiology*, Published Aug. 5, 2009; 10.1104/pp.109.142521.
- Dumitru Macarasin, Michael Wisiewski, Carole Bassett & **Theodore Thannhauser** (2009) Proteomic analysis of B-aminobutyric acid priming and aba-induction of drought resistance in crabapple (*Malus pumila*): effect on general metabolism, the phenylpropanoid pathway and cell wall enzymes, *Plant, Cell and Environment*, doi: 10.1111/j. 1365-3040.2009.02025.x.
- Suping Zhou, Roger Sauve & **Theodore W. Thannhauser** (2009) Aluminum induced proteome changes in tomato cotyledons. *Plant Signaling & Behavior*, **4**:1-4.
- Bosong Xiang, Xiaolong Yang & **Theodore Thannhauser** (2009) Protein N- and C-terminal identification by mass spectrometry and isotopic labeling. *Rapid Communications in Mass Spectrometry*, **23**: 2102-2106.
- Suping Zhou, Roger Sauve, **Theodore W. Thannhauser** (2009) Proteome changes induced by aluminium stress in tomato roots, *Journal of Experimental Botany* 2009; doi: 10.1093/jxb/erp065
- Suping Zhou, Roger Sauve, Tara Fish, **Theodore W. Thannhauser**, (2009) Salt Induced and Salt Suppressed Proteins in Tomato Leaves, *Journal of the American Society for Horticultural Science*, **134**:289-294.
- Thanwalee Sooksa-nguan, Bakhtiyor Yakubov, Volodymyr I. Kozlovskyy, Caitlin M. Barkume, Kevin J. Howe, **Theodore W. Thannhauser**, Michael A. Rutzke, Jonathan J. Hart, Leon V. Kochian, Philip A. Rea and Olena K. Vatamaniuk (2009) *Drosophila* ABC transporter, DmHMT-1, confers Tolerance to Cadmium. DmHMT-1 and its yeast homolog, SpHMT-1, are not essential for vacuolar phytochelatin sequestration. *Journal of Biological Chemistry*, **284**, 354-362.
- Fuxia Jin, Charles Frohman, **Theodore Thannhauser**, Ross Welch, Raymond Glahn (2009) Effects of Ascorbic Acid, Phytic Acid and Tannic Acid on Iron Bioavailability from Reconstituted Ferritin Measured by an In Vitro Digestion/Caco-2 Cell Model, *British Journal of Nutrition*, **101**:972-981.
- Xin Gen Lei; Xiaomei Zhang; Jian-Hong Zhu; Carol A Roneker; Sheng Zhang; **Theodore W Thannhauser**; Daniel R Ripoll; Qi Sun; James P McClung (2008) Role of copper, zinc-superoxide dismutase in catalyzing nitrotyrosine formation in the murine liver. *Free Radical Biology and Medicine*, **45**, 611-618.
- Enriqueta Alós, María Roca, Domingo José Iglesias, María Isabel Mínguez-Mosquera, Cynthia Maria Borges Damasceno, **Theodore William Thannhauser**, Jocelyn Kenneth

- Campbell Rose, Manuel Talón and Manuel Cercós (2008) An evaluation of the basis and consequences of a stay-green mutation in the *navel negra (nan)* citrus mutant using transcriptomic and proteomic profiling and metabolite analysis. *Plant Phys.*, **147**, 1300-1315.
- Xiaolong Yang, **T. W. Thannhauser**, Mary Burrow, Diana Cox-Foster, Fred E. Gildow, and Stewart M. Gray (2008) Coupling genetics and proteomics to identify aphid proteins associated with vector specific transmission of Polerovirus (Luteoviridae), *J. Virol*, **82**, 291-299.
- Alex B. Lopez, Yong Yang, **Theodore W. Thannhauser**, and Li Li (2008) Phytoene desaturase is present in a large protein complex in the plastid membrane, *Physiolgia Plantarum*, **133**, 190-198.
- Yang, Y., **Thannhauser, T.**, Li, Li, Zhang, S., (2007) Development of an Integrated Approach for Evaluation of 2-D Gel Image Analysis: Impact of Multiple Proteins in Single Spots on Comparative Proteomics in Conventional 2-D Gel/MALDI Workflow *Electrophoresis*, **28**, 2080-2094.
- Yong Yang, Sheng Zhang, Kevin Howe, David B. Wilson, Felix Moser, Diana Irwin and **Theodore W. Thannhauser** (2007) A Comparison of nLC-ESI-MS/MS and nLC-MALDI MS/MS for GeLC-based Protein Identification and iTRAQ-based Shotgun Quantitative Proteomics, *Journal of Biological Techniques*, **18**, 226-237.
- A. Carmon, T. J. Vision, S. E. Mitchell, **T. W. Thannhauser**, U. Müller, and S. Kresovich (2002) Solid-Phase PCR in Microwells: Effects of Linker Length and Composition on Tethering, Hybridization, and Extension, *BioTechniques*, **32**, 410.
- Li, Y.-L., Lester, C. C., Rothwarf, D. M., Peng, J.-L., **Thannhauser, T. W.**, Zhang, L., Tam, J. and Scheraga, H. A. (1999) Retention of a *cis*-Proline Rotamer in a Small Fragment of RNase A Containing a Non-Natural Proline Analog - an NMR Study, *Peptides: Frontiers of Peptide Science*, Eds., J.P. Tam & P. T. P. Kaumaya, Kluwer Academic Publ. Dordrecht, pp. 422.
- An, S. A., Lester, C. C., Peng, J.-L., Li, Y.-J. Rothwarf, D. M., Welker, ., **Thannhauser, T. W.**, Zhang, L. S., Tam, J. P., Scheraga, H. A. (1999) Retention of *cis*-proline conformation in tripeptide fragments of bovine pancreatic ribonuclease A containing a non-natural proline analog, 5,5-dimethylproline, *Journal of the American Chemical Society*, **121**, 11558.
- Thannhauser, T. W.**, Rothwarf, D. M., & Scheraga, H. A. (1997) Kinetic Studies of the Regeneration of Recombinant Hirudin Variant 1 With Oxidized and Reduced Dithiothreitol, *Biochemistry* **36**, 2154.
- Thannhauser, T. W.**, Sherwood, R. W. & Scheraga, H. A. (1997) Determination of the Cysteine and Cystine Content of Proteins by Amino Acid Analysis: Application to the Characterization of Disulfide-Coupled Folding Intermediates, *Journal of Protein Chemistry*, **17**, 37.
- Thannhauser, T. W.** & Scheraga, H. A. (1996) State of Aggregation of Recombinant Hirudin in Solution Under Physiological Conditions, *Journal of Protein Chemistry*, **15**, 751.
- Little, D. P., **Thannhauser, T. W.** & McLafferty, F. W. (1995), Verification of 50- to 100-mer DNA and RNA Sequences with High-Resolution Mass Spectrometry, *Proc. Natl. Acad. Sci., USA*, **92**, 2318.
- Keith, J., Stockwell, S., Ball, D. Remillard, K., Kaplan, D., **Thannhauser, T. W.** and Sherwood, R. (1993) Comparative Analysis of Macromolecules in Mollusc Shells, *Comp. Biochem. Physiol.* **105B**, 487.

- Weiner, M. P., **Thannhauser, T. W.**, Laity, J. H., Benning, M. E., Lee, D. P., and Scheraga, H. A., (1988), Plasmid Purification Using Reverse-Phase High Performance Liquid Chromatography Resin RP- ∞ , *Nucleic Acids Research*, **16**, 8185.
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- Swadesh, J. K., Montelione, G. T., **Thannhauser, T. W.**, and Scheraga H. A., (1984), Local Structure Involving His-12 in Reduced S-Sulfonated Ribonuclease A Detected by Proton NMR Spectroscopy Under Folding Conditions, *Proc. Natl. Acad. Sci.*, **81**, 4606.
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