

## CURRICULUM VITAE

**Leesa J. Deterding**

### *National Institute of Environmental Health Sciences*

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#### **Education:**

Ph.D. 1999 Chemistry, North Carolina State University, Raleigh, NC  
M.S. 1987 Chemistry, University of Nebraska-Lincoln, Lincoln, NE  
B.A. 1984 Chemistry and Math, Hastings College, Hastings, NE

#### **Brief Chronology of Employment:**

2017-Present Associate Scientist and Co-Director - Mass Spectrometry Research and Support Group, Epigenetics and Stem Cell Biology Laboratory, NIEHS/NIH, Research Triangle Park, NC

2011-2017 Associate Scientist and Director - Collaborative Mass Spectrometry Group, Epigenetics and Stem Cell Biology Laboratory, NIEHS/NIH, Research Triangle Park, NC

2007-2011 Associate Scientist, Mass Spectrometry Group, Laboratory of Structural Biology and Epigenetics and Stem Cell Biology Laboratory, NIEHS/NIH, Research Triangle Park, NC

2003-2007 Staff Scientist, Mass Spectrometry Workgroup, Laboratory of Structural Biology, NIEHS/NIH, Research Triangle Park, NC

2001-2003 Interim Head, Mass Spectrometry Protein Micro-Characterization Facility, Laboratory of Structural Biology, NIEHS/NIH, Research Triangle Park, NC

1991-2003 Chemist (GS-12), Laboratory of Molecular Biology and Laboratory of Structural Biology, NIEHS/NIH, Research Triangle Park, NC

1987 - 1991 Chemist (GS-11), Laboratory of Molecular Biology, NIEHS/NIH, Research Triangle Park, NC

1985 - 1987 Research Assistant, University of Nebraska-Lincoln, Lincoln, NE

1984 - 1985 Teaching Assistant, University of Nebraska-Lincoln, Lincoln, NE

#### **Awards and Service:**

NIEHS

Performance Award: 1989, 1990-1994, 1996-1998, 2003, 2007-2019

Cash Award: 2001, 2003, 2009, 2016, 2019

Promotion: 1991

Summers of Discovery Seminar Series, Participant, 1994  
Committee on Promotions III: 1993-2004, 2010-2012  
Women's Scientist Assembly  
Assembly of Scientists  
Peer Award: 2006  
Science Awards Day Judge: 2007-2011, 2019  
Dr. Lutz Birnbaumer/LST Staff Scientist Search Committee: 2007  
Women's Scientist Assembly Scientific Director Interview Committee: 2007, 2010, 2011  
Promotion: 2008  
Women's Scientist Assembly, Co-Advisor: 2009-2011  
Dr. Frederick Miller/EAG Staff Clinician Search Committee: 2010  
Assembly of Scientists, Secretary: 2012-2014  
Inflammation Planning Committee: 2012-2013  
Predictive Toxicology & Disease Planning Committee: 2012-2013  
Committee on Promotions IV: 2016-2018  
DIR Committee for Non-Recurring Requests: 2019-present  
NIEHS -Nanjing Medical University Training Partnership 2018

#### ASMS

Nominated to the ballot for Secretary for the 2007-2008 terms  
Program Review Committee: 2007, 2008, 2019  
Nominating Committee: 2009, 2010  
Sanibel Conference Committee: 2010-2013

#### NIH

Office of Research on Women's Health, featured in a publication titled "National Institutes of Health: Women in Science", 2007  
Fellow Award for Research Excellence (FARE) Judge: 2008, 2010, 2011, 2012

#### **Reviewer:**

Analyst, EMBO Reports, Expert Reviews in Proteomics, Nature Methods, Analytical Chemistry, Journal of the American Society for Mass Spectrometry, Analytical and Bioanalytical Chemistry, Biochemical Biophysical Methods, Current Analytical Chemistry, International Journal of Mass Spectrometry, Rapid Communications in Mass Spectrometry, Physical Chemistry Chemistry Physics, Chemistry Today, and Journal of Chromatography.

#### **Professional Societies:**

The American Chemical Society  
The American Society for Mass Spectrometry  
Human Proteome Organization  
Triangle Area Mass Spectrometry Discussion Group  
Phi Lambda Upsilon Honorary Chemical Society  
The Association of Biomolecular Resource Facilities

#### **Responsibilities:**

Oversight of the day-to-day operations of the Mass Spectrometry Research and Support Group including management of fiscal and human resources and establishment of workflows. The Group offers proteomic and metabolomics research, provides quantitative information, and performs mass spectrometric research and development. Independently perform research as it relates to questions associated with

biology utilizing the tool of mass spectrometry and develop a research program to address various biological questions.

### **Research Interests:**

Major research interests are primarily focused on the application of mass spectrometric techniques to questions in structural biology and research efforts directed to understanding the mechanisms for the development of the autoimmune diseases. These studies involve the tertiary structural characterization of the antigens associated with these autoimmune diseases and their interactions with other biomolecules. As an extension of this work, quantitative proteomics and glycomics of patient samples are being investigated in an effort to discover biomarkers for the early diagnosis, prognosis, and treatment of the diseases. Structural research efforts include the characterization of the tertiary structure of proteins, determination of the sites of in vitro and in vivo modifications of proteins, the interactions of proteins with other biomolecules, and the identification of protein complexes via immunoprecipitates. Mass spectrometric-based approaches are currently being applied to a) the determination of the extent of, changes in, and sites of PTMs of proteins; b) the determination of the mechanisms of free radical formation on proteins as a result of oxidative stress; and c) the characterization of biomolecular interactions.

### **Invited Presentations:**

- 1988 “Evaluation and Optimization of Continuous Flow Fast Atom Bombardment Interfaces”; VG Instruments Inc. User's Meeting, June, San Francisco, CA.
- 1989 “The Coupling of Coaxial Continuous Flow FAB and Capillary Zone Electrophoresis with MS/MS”; 6<sup>th</sup> Montreux Symposium on Liquid Chromatography/Mass Spectrometry, July, Ithaca, NY.
- 1991 “Biological Analyses using Nanoscale Packed Capillary LC in Conjunction with Coaxial Continuous Flow FAB”; 8<sup>th</sup> Montreux Symposium on Liquid Chromatography/Mass Spectrometry, July, Ithaca, NY.
- 1991 “Microdialysis/MS: Interfacing Living Systems with Mass Spectrometry”; 12<sup>th</sup> International Mass Spectrometry Conference, August, Amsterdam, The Netherlands.
- 1995 “Nanoscale Separations Combined with Coaxial Continuous Flow FAB”; FDA Symposium on Mass Spectrometry: New Challenges, New Techniques, September, Washington, D.C.
- 2004 “Mass Spectrometric Characterization of Heme-Protein Free Radicals Induced By Oxidative Damage”; 1<sup>st</sup> Biennial Oxidative Post-Translational Modifications in the Cardiovascular System Symposium, October, Boston, MA.
- 2004 “Mass Spectrometry in Targeted and Differential Proteomics”; HUPO 3rd Annual World Congress on Proteomics: Decoding the Genome, October, Beijing, China.
- 2005 “Identification of Protein Free Radicals Using Mass Spectrometry”; Workshop on ‘The Rigorous Detection and Identification of Free Radicals in Biology and Medicine’ at the 12<sup>th</sup> Annual Meeting of the Society for Free Radical Biology and Medicine, November, Austin, TX.

- 2007 “Complementarity of Top Down and Bottom Up Mass Spectrometric Characterization of Modified Proteins”; 8<sup>th</sup> European Fourier Transform Mass Spectrometry Conference, August, Moscow, Russia.
- 2007 “Structural Studies of Antigens Associated with the Autoimmune Disease, Sjogren’s Syndrome”; 1<sup>st</sup> International NATO Conference on Applications of Mass Spectrometry in Life Safety, September, Herculane, Romania.
- 2008 “Career Path Options with a PhD in Chemistry”; Panel discussion for the Graduate Assistance in Areas of National Need (GAANN) in the Department of Chemistry at the University of North Carolina, March, Chapel Hill, NC.
- 2008 “Spin-Trapping in Combination with Mass Spectrometry”; 50<sup>th</sup> Rocky Mountain Conference on Analytical Chemistry, July, Breckenridge, CO.
- 2008 “Mass Spectrometry as a Tool to Identify Protein Free Radicals”; Workshop on ‘Mass Spectrometry in Free Radical Research’ at the 15<sup>th</sup> Annual Meeting of the Society for Free Radical Biology and Medicine, November, Indianapolis, IN.
- 2009 “Networking: An Important Part of the Career Process”; Panel discussion for The Graduate School, Office of Postdoctoral Affairs, North Carolina State University, February, Raleigh, NC.
- 2009 “Glycosylation Profile Studies of Antibodies from Autoimmune Patients”; Workshop on ‘Advances in Mass Spectrometric Analysis of Glycosylation and Glycoconjugates at the 42<sup>nd</sup> Annual Conference of the German Society for Mass Spectrometry, March, Konstanz, Germany.
- 2009 “Structural Characterization of Proteins Related to Autoimmune Diseases”; Plenary Lecture at the 42<sup>nd</sup> Annual Conference of the German Society for Mass Spectrometry, March, Konstanz, Germany.
- 2009 “Glycosylation Profile Studies of Antibodies Isolated From Patients Diagnosed with Autoimmune Muscle Diseases”; 18<sup>th</sup> International Mass Spectrometry Conference, September, Bremen, Germany.
- 2011 “Quantitative Bottom-Up Proteomics: Discovery and Targeted Analyses”; Co-instructor of the short-course at the 7<sup>th</sup> Annual U.S. Human Proteome Organization (US-HUPO) Conference, March, Raleigh, NC.
- 2012 “Structural Studies using Mass Spectrometry”; Department of Biochemistry, North Carolina State University, February, Raleigh, NC.
- 2012 “Quantitative Bottom-Up Proteomics: Discovery and Targeted Analyses”; Co-instructor of the short-course at the 8<sup>th</sup> Annual U.S. Human Proteome Organization (US-HUPO) Conference, March, San Francisco, CA.

- 2012 "Quantitative Bottom-Up Proteomics: Discovery and Targeted Analyses"; Co-instructor of the short-course at the Human Proteome Organization (HUPO) 11<sup>th</sup> Annual World Congress, September, Boston, MA.
- 2014 "MS for Structural Biology"; School of Arts and Sciences, Clarkson University, April, Potsdam, NY.
- 2014 "MS for Structural Biology"; Department of Chemistry and Biomolecular Science, Clarkson University, April, Potsdam, NY.
- 2014 NIEHS DNTP Seminar Series
- 2018 NIEHS Neurobiology Laboratory Seminar Series

### **Selected Oral Presentations at Scientific Meetings:**

1. Deterding, L.J., Tomer, K.B., Moseley, M.A., de Wit, J.S.M. and Jorgenson, J.W. "Evaluation and Optimization of Continuous Flow Fast Atom Bombardment Interfaces Between Open Tubular Liquid Chromatography and Mass Spectrometry"; 11th International Mass Spectrometry Conference, Bordeaux, France, August 1988.
2. Deterding, L.J., Moseley, M.A., Tomer, K.B. and Jorgenson, J.W. "The Coupling of Coaxial Continuous Flow-Fast Atom Bombardment with Tandem Mass Spectrometry"; 40th Pittsburgh Conference and Exposition, Atlanta, GA, March 1989.
3. Deterding, L.J., Moseley, M.A., Tomer, K.B. and Jorgenson, J.W. "Tandem Mass Spectrometry for the Analysis of Biomolecules via Coaxial Continuous Flow-Fast Atom Bombardment and Capillary Zone Electrophoresis"; 37th Annual American Society for Mass Spectrometry Conference, Miami, FL, May 1989.
4. Deterding, L.J., Moseley, M.A., Tomer, K.B., and Jorgenson, J.W. "Coupling of Microdialysis with Coaxial Continuous Flow Fast Atom Bombardment Mass Spectrometry"; 38th Annual American Society for Mass Spectrometry Conference, Tucson, AZ, June 1990.
5. Deterding, L.J., Washburn, K., Burka, L.T., and Tomer, K.B. "Microdialysis /MS: On-Line Coupling of Biological Systems with Mass Spectrometry"; 39th Annual American Society for Mass Spectrometry Conference, Nashville, TN, May 1991.
6. Deterding, L.J., Washburn, K., Burka, L.T., and Tomer, K.B. "On-Line *In Vivo* Microdialysis/Mass Spectrometry for Pharmacokinetic Studies"; 43rd Pittsburgh Conference and Exposition, New Orleans, LA, March 1992.
7. Deterding, L.J., Dix-Washburn, K., Burka, L.T., and Tomer, K.B. "Pharmacokinetic Studies Using *In Vivo* Microdialysis in Combination with Tandem Mass Spectrometry"; 40th Annual American Society for Mass Spectrometry Conference, Washington, DC, June 1992.
8. Deterding, L.J., Perkins, J.R., and Tomer, K.B. "Analysis of Biomolecules Using Nanoscale Separations in Combination with Coaxial Continuous Flow-FAB Mass Spectrometry"; 9th Montreux Symposium on Liquid Chromatography/Mass Spectrometry, Montreux, Switzerland,

November 1992.

9. Deterding, L.J., Barr, D.P., Mason, R., and Tomer, K.B. "Mass Spectrometry, Proteins, and Oxidative Stress"; 14th International Mass Spectrometry Conference, Tampere, Finland, August 1997.

## BIBLIOGRAPHY

### Peer-Reviewed Journal Publications:

1. **Deterding, L.J.** and Gross, M.L.: Fast Atom Bombardment and Tandem Mass Spectrometry for Determining Structures of Fatty Acids as Their Picolinyl Ester Derivatives. *Anal. Chim. Acta* **200**:431-445, 1987.
2. **Deterding, L.J.** and Gross, M.L.: Tandem Mass Spectrometry for Identifying Fatty Acid Derivatives that Undergo Charge-Remote Fragmentations. *Org. Mass Spectrom.* **23**: 169-177, 1988.
3. Adams, J., **Deterding, L.J.**, and Gross, M.L.: Tandem Mass Spectrometry for Determining Structural Features of Fatty Acids. *Spectroscopy Int. J.* **5**: 199-228, 1987.
4. de Wit, J.S.M., **Deterding, L.J.**, Moseley, A.M., Tomer, K.B., and Jorgenson, J.W.: Design of a Coaxial Continuous Flow Fast Atom Bombardment Probe. *Rapid Comm. Mass Spectrom.* **2**: 100-104, 1988.
5. Tomer, K.B., Guenat, C.R., and **Deterding, L.J.**: Consecutive Reaction Monitoring in a Four-Sector Mass Spectrometer: MS<sup>4</sup> and One Step Beyond. *Anal. Chem.* **60**: 2232-2236, 1988.
6. Tomer, K.B., Guenat, C.R., Dino, J.J., and **Deterding, L.J.**: Applications of FAB and Tandem MS. *Biomed. Environ. Mass Spectrom.* **16**: 473-476, 1988.
7. Moseley, M.A., **Deterding, L.J.**, de Wit, J.S.M., Tomer, K.B., Kennedy, R.T., Bragg, N., and Jorgenson, J.W.: Optimization of a Coaxial Continuous Flow Fast Atom Bombardment Interface Between Capillary Liquid Chromatography and Magnetic Sector Mass Spectrometry for the Analysis of Biomolecules. *Anal. Chem.* **61**:1577-1584, 1989.
8. **Deterding, L.J.**, Moseley, M.A., Tomer, K.B. and Jorgenson, J.W.: Coaxial Continuous Flow Fast Atom Bombardment In Conjunction with Tandem Mass Spectrometry for the Analysis of Biomolecules. *Anal. Chem.* **61**: 2504-2511, 1989.
9. Moseley, M.A., **Deterding, L.J.**, Tomer, K.B. and Jorgenson, J.W.: Capillary Zone Electrophoresis/Fast Atom Bombardment Mass Spectrometry: Design of an On-line Coaxial Continuous Flow Interface. *Rapid Comm. Mass Spectrom.* **3**:87-93, 1989.
10. Bartczak, A.W., Sangaiah, R., Kelman, D.J., Toney, G.E., **Deterding, L.J.**, Charles, J., Marbury, G.D., and Gold, A.: Synthesis of N<sup>6</sup>-Adenosine Adducts Expected from Cyclopenta-Ring Activation of Acenaphthylene and Aceanthrylene. *Tetrahedron Lett.* **30**:3251-3254, 1989.
11. **Deterding, L.J.**, Srinivas, P., Mahmood, N.A., Burka, L.T., and Tomer, K.B.: Fast Atom Bombardment and Tandem Mass Spectrometry for Structure Determination of Cysteine, N-Acetyl Cysteine and Glutathione Adducts of Xenobiotics. *Anal. Biochem.* **183**:94-107, 1989.
12. Moseley, M.A., **Deterding, L.J.**, Tomer, K.B., and Jorgenson, J.W. Coupling of Capillary Zone Electrophoresis and Capillary Liquid Chromatography with Coaxial Continuous Flow Fast Atom Bombardment Tandem Sector Mass Spectrometry. *J. Chromatogr.* **480**: 197-209, 1989.
13. **Deterding, L.J.**, Tomer, K.B. and Spatola, A.F.: Tandem Mass Spectrometry for the Structure Determination of Backbone-Modified Peptides. *J. Am. Soc. Mass Spectrom.* **1**:174-182, 1990.
14. Pleasance, S., Thibault, P., Moseley, M.A., **Deterding, L.J.**, Tomer, K.B., and Jorgenson, J.W.:

- Continuous Flow FAB with Packed Micro-Columns: A Comparison of Precolumn vs. Coaxial Matrix Delivery. *J. Am. Soc. Mass Spectrom.* **1**:312-319, 1990.
15. Moseley, M.A., **Deterding, L.J.**, Tomer, K.B., and Jorgenson, J.W.: Capillary Zone Electrophoresis/Mass Spectrometry Using a Coaxial Continuous Flow Fast Atom Bombardment Interface. *J. Chromatogr.* **516**: 167-173, 1990.
  16. Moseley, M.A., **Deterding, L.J.**, Tomer, K.B., and Jorgenson, J.W.: Determination of Bioactive Peptides Using Capillary Zone Electrophoresis/Mass Spectrometry. *Anal. Chem.* **63**: 109-114, 1991.
  17. Tomer, K.B., Moseley, M.A., **Deterding, L.J.**, Parker, C., Perkins, J., and Jorgenson, J.W.: CZE/MS: Method Development and Biochemical Applications. *Proc. Jpn. Soc. Biomed. Mass Spectrom.* **15**: 87-98, 1990.
  18. Moseley, M.A., **Deterding, L.J.**, Tomer, K.B., and Jorgenson, J.W.: Nanoscale Packed Capillary LC Coupled with Mass Spectrometry Using a Coaxial Continuous Flow Fast Atom Bombardment Interface. *Anal. Chem.* **63**: 1476-1473, 1991.
  19. Tomer, K.B., **Deterding, L.J.**, and Guenat, C.: Collisionally Activated Dissociation Spectra of Sodiated Peptides and Peptide Amides. *Biol. Mass Spectrom.* **20**: 121-129, 1991.
  20. **Deterding, L.J.**, Moseley, M.A., Tomer, K.B., and Jorgenson, J.W.: Nanoscale Separations Combined with Tandem Mass Spectrometry. *J. Chromatogr.* **554**: 73-82, 1991.
  21. **Deterding, L.J.**, Parker, C.E., Perkins, J.R., Moseley, M.A., Jorgenson, J.W., and Tomer, K.B.: Nanoscale Separations: Capillary Liquid Chromatography/Mass Spectrometry and Capillary Zone Electrophoresis/Mass Spectrometry for the Determination of Peptides and Proteins. *J. Chromatogr.* **554**: 329-338, 1991.
  22. Tomer, K.B., Perkins, J.R., Parker, C.E., and **Deterding, L.J.**: Coaxial Continuous Flow Fast Atom Bombardment for Higher-Molecular-Weight Peptides: Comparison with Static Fast Atom Bombardment and Electrospray Ionization. *Biol. Mass Spectrom.* **20**: 783-788, 1991.
  23. **Deterding, L.J.** and Tomer, K.B.: Tandem Mass Spectrometric Analysis of Eicosanoids: Leukotrienes and Hydroxyeicosatetraenoic Acids. *Biol. Mass Spectrom.* **21**: 597-609, 1992.
  24. **Deterding, L.J.**, Dix, K., Burka, L.T., and Tomer, K.B.: On-line Coupling of *In Vivo* Microdialysis with Tandem Mass Spectrometry. *Anal. Chem.* **64**: 2636-2641, 1992.
  25. Tomer, K.B., McGown, S.R., and **Deterding, L.J.**: A Comparison of Hybrid and Magnetic Sector Tandem Mass Spectrometry for Ions Above  $m/z$  1000, *Int. J. Mass Spectrom. Ion Proc.* **124**: 99-113, 1993.
  26. Tomer, K.B., McGown, S.R., and **Deterding, L.J.**: Hybrid Tandem Mass Spectrometry of Electrospray Produced Peptide Ions. *Org. Mass Spectrom.* **28**: 534-541, 1993.
  27. Shida, Y., **Deterding, L.J.**, O'Hara, K., Kono, M., and Tomer, K.B.: Macrolide Antibiotic Structure Determination by Fast Atom Bombardment/Tandem Mass Spectrometry. *Tetrahedron* **49**: 9221-9234, 1993.
  28. Dix, K., **Deterding, L.J.**, Burka, L.T., and Tomer, K.B.: Tris(2-Chloroethyl) Phosphate Pharmacokinetics in the Fischer 344 Rat: A Comparison of Conventional Methods and *In Vivo* Microdialysis Coupled with Tandem Mass Spectrometry. *J. Pharm. Sci.* **83**: 1622-1629, 1994.
  29. Weinmann, W., Parker, C.E., **Deterding, L.J.**, Papac, D., Hoyes, J., Przybylski, M., and Tomer, K.B.: Capillary Electrophoresis/Matrix Assisted Laser Desorption Ionization Mass Spectrometry of Proteins. *J. Chromatogr. A*, **680**: 353-361, 1994.
  30. Tomer, K.B., Moseley, M.A., **Deterding, L.J.**, and Parker, C.E.: Capillary Liquid Chromatography/Mass Spectrometry. *Mass Spectrom. Rev.*, **13**: 431-457, 1994.
  31. Iwahashi, H., **Deterding, L.J.**, Parker, C.E., Mason, R.P., and Tomer, K.B.: Identification of Radical Adducts Formed in the Reactions of Unsaturated Fatty Acids with Soybean Lipoxygenase Using Continuous Flow Fast Atom Bombardment with Tandem Mass Spectrometry. *Free Rad. Res.* **25(3)**: 255-274, 1996.

32. **Deterding, L.J.**, Khaledi, M., and Tomer, K.B.: Coaxial Continuous-Flow Fast-Atom Bombardment vs Electrospray Ionization: A Sensitivity Comparison on a Magnetic Sector Instrument. *Rapid Commun. Mass Spectrom.* **10**:60-64, 1996.
33. Barr, D.P., Gunther, M.R., **Deterding, L.J.**, Tomer, K.B., and Mason, R.P.: ESR Spin-Trapping of a Protein-derived Tyrosyl Radical from the Reaction of Cytochrome *c* with Hydrogen Peroxide. *J. Biol. Chem.* **271(26)**:15498-15503, 1996.
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35. **Deterding, L.J.**, Barr, D.P., Mason, R., and Tomer, K.B.: Characterization of Cytochrome *c* Free Radical Reactions with Peptides by Mass Spectrometry. *J. Biol. Chem.* **273(21)**:12863-12869, 1998.
36. **Deterding, L.J.**, Wellemans, J.M.Y., Cerny, R.L., Gross, M.L. and Tomer, K.B.: Capillary Electrophoresis/Tandem Mass Spectrometry with Array Detection. *Eur. Mass Spectrom.* **5(1)**: 33-40, 1999.
37. Borchers, C., Parker, C.E., **Deterding, L.J.**, and Tomer, K.B.: A Preliminary Comparison of Precursor Scans and LC-MS-MS on a Hybrid Quadrupole Time-of-Flight Mass Spectrometer. *J. Chromatogr. A.*, **854**:119-130, 1999.
38. **Deterding, L.J.**, Prasad, R., Mullen, G.P., Wilson, S.H., and Tomer, K.B.: Mapping of the dRP Lyase Active Site in DNA Polymerase  $\beta$  by Mass Spectrometry. *J. Biol. Chem.*, **275**:10463-10471, 2000.
39. **Deterding, L.J.**, Kast, J., Przybylski, M., and Tomer, K.B.: Molecular Characterization of a Tetramolecular Complex between dsDNA and a DNA-Binding Leucine Zipper Peptide Dimer by Mass Spectrometry. *Bioconj. Chem.*, **11**:335-344, 2000.
40. Chen, Y.-R., **Deterding, L.J.**, Tomer, K.B., and Mason, R.P.: The Nature of the Inhibition of Horseradish Peroxidase and Mitochondrial Cytochrome *c* by Cyanyl Radical. *Biochem.*, **39**: 4415-4422, 2000.
41. Banks, G.C., **Deterding, L.J.**, Tomer, K.B., and Archer, T.K.: Hormone Mediated Dephosphorylation of Specific Histone H1 Isoforms. *J. Biol. Chem.* **276**: 36467-36473, 2001.
42. Parker, C.E., **Deterding, L.J.**, Hager-Braun, C., Binley, J.M., Schuelke, N., Katinger, H., Moore, J.P., and Tomer, K.B.: Fine Definition of the Epitope on the gp41 Glycoprotein of Human Immunodeficiency Virus Type 1 for the Neutralizing Monoclonal Antibody 2F5. *J. Virol.* **75**: 10906-10911, 2001.
43. Qian, S.Y, Chen, Y.-R., **Deterding, L.J.**, Fann, Y.C., Chignell, C.F., Tomer, K.B., and Mason, R.P.: Identification of Protein-Derived Tyrosyl Radicals in the Reaction of Cytochrome *c* and Hydrogen Peroxide: Characterization by ESR Spin-Trapping, High Performance Liquid Chromatography, and Mass Spectrometry. *Biochem. J.*, **363**: 281-288, 2002.
44. Detweiler, C.D., **Deterding, L.J.**, Tomer, K.B., Chignell, C.F., Germolec, D., and Mason, R.P.: Immunological Identification of the Heart Myoglobin Radical. *Free Rad. Biol. Med.*, **33**: 364-369, 2002.
45. **Deterding, L.J.**, Cutalo, J.M., Khaledi, M.G., and Tomer, K.B.: Separation and Characterization of Human High Density Apolipoproteins Using Nonaqueous Modifiers in Capillary Electrophoresis/Mass Spectrometry. *Electrophoresis*, **23**:2296-2305, 2002.
46. Chen, Y.-R., **Deterding, L.J.**, Sturgeon, B.E., Tomer, K.B., and Mason, R.P.: Protein Oxidation of Cytochrome *c* by Reactive Halogen Species Enhances Its Peroxidase Activity. *J. Biol. Chem.*, **277**:29781-29791, 2002.
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48. **Deterding, L.J.**, Ramirez, D.C., Dubin, J.R., Mason, R.P., and Tomer, K.B.: Identification of Free Radicals on Hemoglobin from its Self-Peroxidation Using Mass Spectrometry and Immuno-Spin Trapping: Observation of a Histidinyl Radical. *J. Biol. Chem.*, **279**: 11600-11607, 2004.
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  52. Cao, H., **Deterding, L.J.**, Venable, J.D., Kennington, E.A., Yates, J.R., 3<sup>rd</sup>, Tomer, K.B., and Blackshear, P.B.: Identification of the Anti-inflammatory Protein Tristetraprolin as a Hyperphosphorylated Protein by Mass Spectrometry and Site-Directed Mutagenesis. *Biochem. J.*, **394(Pt 1)**: 285-97, 2006.
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  55. **Deterding, L.J.**, Bhattacharjee, S., Ramirez, D.C., Mason, R.P., and Tomer, K.B.: Top-down and Bottom-up Mass Spectrometric Characterization of Human Myoglobin-Centered Free Radicals Induced by Oxidative Damage. *Anal. Chem.*, **79**: 6236-48, 2007.
  56. Bhattacharjee, S., **Deterding, L.J.**, Jiang, J.-J., Bonini, M.G., Tomer, K.B., Ramirez, D.C., and Mason, R.P.: Electron Transfer Between a Tyrosyl Radical and a Cysteine Residue in HemoProteins: Spin Trapping Analysis. *J. Am. Chem. Soc.*, **129(44)**:13493-501, 2007.
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