

Education:

University of California, Los Angeles, CA	B.S.	1968	Chemistry
Princeton University, Princeton, NJ	Ph.D.	1972	Biochemistry
University of California, Berkeley, CA	Post-doc	1972-75	Enzymology

Professional Experience:

1972-75	<i>Post-doctoral with Daniel E. Koshland, Jr.</i>
1975-80	<i>Assistant Professor, Chemistry, Tulane University</i>
1980-86	<i>Associate Professor, Chemistry, Tulane University</i>
1986-present	<i>Professor, Chemistry, Tulane University</i>

Grants and Other Research Support:

National Institutes of Health, National Science Foundation, Department of Defense, Department of Energy, NASA, Cancer Society of Greater New Orleans, Petroleum Research Fund, Frosch Foundation

Meeting Presentations--

L. D. Byers, K. P. White and R. Wolfenden, Federation Proc. **30**, 1212 (1971) "An Intermediate in the Action of Adenylosuccinate Synthetase".

L. D. Byers and D. E. Koshland, Jr., 168th ACS National Meeting (1974) "Activity of Methyl-Chymotrypsin".

L. D. Byers, Federation Proc., **35**, 1498 (1976) "Inhibition Studies on Glycerinaldehyde-3-Phosphate Dehydrogenase".

K. Kern and L. Byers, Federation Proc., **39**, 791 (1980) "Inhibition of Glycohydrolases by Amphetamines".

L. D. Byers and M. Kahn, Federation Proc., **39**, 1853 (1980) "A Continuous Fluorometric Method of Monitoring NAD Binding to Dehydrogenases".

M. P. Dale and L. D. Byers, Federation Proc., **41**, 741 (1982) "Catalytic Effects of Enzyme-Substrate Osculations in β -Glucosidase".

M. P. Dale and L. D. Byers, Federation Proc., **42**, 1960 (1983) " β -Glucosidase: Activation/Inhibition by Phenols".

W. P. Kopfler and L. D. Byers, Federation Proc., **43**, 1712 (1984) "A Search for an Intermediate in the β -Glucosidase Reaction".

R. Matson, H. Kadish and L. D. Byers, Federation Proc., **44**, 1444 (1985) "Some Potential Transition State Analog Inhibitors of GPD".

L. D. Byers, J. Vijayaraghaven, M. J. Sparkes and H. B. Dixon, The FASEB Journal, **2**, A998 (1988) "A Species Selective Inhibitor of Glycerinaldehyde-3-Phosphate Dehydrogenase".

Y. K. Li and L. D. Byers, *J. Cell. Biol.* **107**, 838a (1988) "A Potent, Selective β -Glucosidase Inhibitor".

R-P. Yang and L. D. Byers, *The FASEB Journal* **4**, A2129 (1990) "Metabolite Channeling Between PGK and GPD".

L. D. Byers and B. R. Wikjord, *Fed. Eur. Bioch. Soc.* **22**, I02 (1993) "Enzymatic and Non-enzymatic Nucleophilic Reactivity of Molybdate"

R-P. Yang and L. D. Byers, *The FASEB Journal* **7**, A837 (1993) "Binding of NAD to Dehydrogenases -- A Continuous Fluorometric Assay"

D. De, F.M. Krogstad, L.D. Byers and D.J. Krogstad, *ACS Annual Meeting*, Chicago (1995) "Modification of the Side Chain and Chloroquine Resistance in P. falciparum"

A.W. Apblett, L.D. Byers and L.E. Reinhardt, Am. Ceramic Society Meeting (1995) "Novel Catalysts for Dechlorination of Chlorocarbons"

L. Veress, D. Mullin, D. Boyarsky, C. Dimaunahan and L.D. Byers, *The FASEB Journal* **10**, A1385 (1996) "The Role of His-176 in the Chemical Mechanism and Thermal Stability of Glyceraldehyde-3-Phosphate Dehydrogenase"

V.C. Rucker and L.D. Byers, *The Brønsted Symposium* (Copenhagen, Denmark) P10, (1997) "Amplification of Enhanced Nucleophilicity of Molybdate in H₂O/DMSO Mixtures"

V.C. Rucker and L.D. Byers, *International Conference on Phosphorous Chemistry* (Cincinnati, 1998) "Solvent Effects on Acyl Transfers to Phosphonates"

V.C. Rucker and L.D. Byers, *16th Enzyme Mechanisms Conference* (Napa, CA; 1999) "How Enzymes Enhance the Reactivity of the Phosphate Dianion"

X. Yao, L. Griffith and L.D. Byers, *The FASEB Journal* **13**, A1349 (1999) "Multiple Inhibition Analysis of α -Glucosidase"

H. Fan, Y. Zhao, L. Byers and Hammer, R.P., *American Peptide Symposium* (Minneapolis, 1999) "Synthesis of Phosphonopeptide and Thiophosphonopeptide Analogs as Inhibitors of Carboxypeptidase A"

X. Yao and L.D. Byers, *Gordon Conference on Isotopes* (Ventura, CA; 2000) "Solvent Isotope Effects on Glucose Binding to Glycohydrolases"

X. Yao and L.D. Byers, *Pan Am. Biochemistry Convention* (San Francisco, 2000) "Multiple Inhibition Analysis of α -Glucosidase"

V.C. Rucker and L.D. Byers, *International Conference on Physical Organic Chemistry* (Göteborg, Sweden; 2000) "Solvent Effects on Nucleophilicity"

X. Yao, D. Nguyen, R. Mauldin, P. Tien and L.D. Byers, *Gordon Conference on Enzymes, Coenzymes and Metabolic Pathways* (Meriden, NH, 2001) "An Inhibitory Comparison of α - and β -Glucosidase"

A. O'Donnell, E. Golden, X. Yao and L.D. Byers, *International Isotope Effects Conference* (Uppsala, Sweden, 2003) "Solvent Isotope Effects on Glucosidases"

E.M. Bowers, L.O. Ragland and L.D. Byers, *International Union of Biochemistry and Molecular Biology* (Boston, MA, 2004) "Specific Ion Effects on β -Glucosidase"

A. H. O'Donnell, E.B. Golden and L.D. Byers, *19th Enzyme Mechanisms Conference* (Asilomar, CA, 2005) "Solvent Isotope Effects on Glucosidases"

E.B. Golden and L.D. Byers, *ASBMB Annual Meeting and Centennial Celebration* (San Francisco, CA, 2006) "A Search for a Solvent Kinetic Isotope Effect on β -Glucosidase"

E.M. Bowers and L.D. Byers, *20th Enzyme Mechanisms Conference* (St. Petersburg, FL, 2007) "Salt Induced Squinching of pH-Rate Profiles"

H. Shen and L.D. Byers, *Am. Soc. Biological Chemists and Mol. Biologists Annual Meeting* (Washington, D.C., 2007) "Thioglycoside Hydrolysis of β -Glucosidase"

Publications--

L. D. Byers and R. Wolfenden, *J. Biol. Chem.*, **247**, 606-608 (1972) "A Potent Reversible Inhibitor of Carboxypeptidase A"

L. D. Byers and R. Wolfenden, *Biochemistry*, **12**, 2070-2078 (1973) "Binding of the Bi-product Analog Benzylsuccinic Acid by Carboxypeptidase A".

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S. C. Mockrin, L. D. Byers and D. E. Koshland, Jr., *Biochemistry*, **14**, 5428-5437 (1975) "Subunit Interactions in Yeast Glyceraldehyde-3-Phosphate Dehydrogenase"

S. McCaul and L. D. Byers, *Biochem. Biophys. Res. Commun.*, **72**, 1028-1034 (1976) "The Reaction of Epoxides with Yeast Glyceraldehyde-3-Phosphate Dehydrogenase"

L.D. Byers, *J. Chem. Educ.*, **54**, 352-354 (1977) "Probe-Dependent Cooperativity Patterns in Hill-Plots"

L. D. Byers, *J. Am. Chem. Soc.*, **99**, 4146-4149 (1977) "Criteria for Evaluating Enzymic Rate Enhancements: The Case of Glyceraldehyde- 3-Phosphate Dehydrogenase"

J. H. Gardner and L. D. Byers, *J. Biol. Chem.*, **252**, 5925-5927 (1977) "Enzymic Reactions of Phosphate Analogs"

L. D. Byers and D. E. Koshland, Jr., *Bioorganic Chem.*, **7**, 15-33 (1978) "On the Mechanism of Action of Methyl Chymotrypsin"

L. D. Byers, *Arch. Bioch. Biophys.*, **186**, 335-342 (1978) "Enantiomeric Specificity of Glyceraldehyde-3-Phosphate Dehydrogenase"

- L. D. Byers, *J. Theoretical Biology*, **74**, 501-512 (1978) "Binding of Reactive Intermediate Analogs to Enzymes"
- M. S. Kanchuger and L. D. Byers, *J. Am. Chem. Soc.*, **101**, 3005-3010 (1979) "Acyl Substituent Effects on Thiohemiacetal Equilibria"
- M. Levy and L. D. Byers, *J. Chem. Educ.*, **56**, 526 (1979) "The Physically Meaningful Solution of the Quadratic Equation"
- L. D. Byers, H. S. She and A. Alayoff, *Biochemistry*, **18**, 2471-2480 (1979) "Interaction of Phosphate Analogs with Glyceraldehyde-3-Phosphate D'Hase"
- M. S. Kanchuger, P-M. Leong and L. D. Byers, *Biochemistry*, **18**, 4373-4379 (1979) "Interaction of the Substrate Phosphate Substituent with GAPDH"
- S. L. Shames and L. D. Byers, *J. Am. Chem. Soc.*, **103**, 6170-6177 (1981) "Acyl Substituent Effects on Rates of Acyl Transfer to Thiolate, Hydroxide, and Oxy Dianions"
- S. L. Shames and L. D. Byers, *J. Am. Chem. Soc.*, **103**, 6177-6184 (1981) "Effect of Phosphono Substituents on Acyl Transfer Reactions"
- L. D. Byers, *Methods in Enzymology*, **89**, 326-335 (1982) "Glyceraldehyde- 3-Phosphate Dehydrogenase from Yeast"
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- M. P. Dale, W. P. Kopfler, I. Chait and L. D. Byers, *Biochemistry*, **25**, 2522- 2529 (1986) " β -Glucosidase: Substrate, Solvent and Viscosity as Probes of the Rate Limiting Steps"
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- R. A. Gagliano, R. C. Knowlton and L. D. Byers, *J. Org. Chem.*, **54**, 5247- 5250 (1989) "Methylimidazole-Catalyzed Ester Hydrolysis: Non-linear Kinetics"
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- Y. K. Li and L. D. Byers, *Biochem. Biophys. Acta*, **1164**, 17-21 (1993) "Phosphonate Inhibitors of GPD and Phosphoglycerate Kinase"
- D. De, J. T. Mague, L. D. Byers and D. J. Krogstad, *Tet. Lett.*, **36**, 205-208 (1995) "Synthesis of (E)-2-(4,7-Dichloroquinolin-2-yl)-3-Dimethyl-amino-2-Propene-1-al and It's Use as a Synthetic Intermediate"
- S. Gollapudi, H.A. Sharma, S. Aggarwal, L.D. Byers, H.E. Ensley and S. Gupta, *Biochem. Biophys. Res. Commun.*, **210**, 145-151 (1995) "Isolation of A Previously Unidentified Polysaccharide from Hyssop Officinalis that Exhibits Strong Activity Against HIV Virus Type 1"
- D. De, L. D. Byers and D.J. Krogstad, *J. Heterocyclic Chem.*, **34**, 315-320 (1997) "Antimalarials: Synthesis of 4-Aminoquinolines that Circumvent Drug Resistance in Malaria Parasites"
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- L.O. Ragland and L.D. Byers, *FASEB Journal* **16**, 535 (2002) "Salt Effects on β -Glucosidase Kinetics"
- X. Yao, R. Mauldin and L.D. Byers, *Biochim. Biophys. Acta* **1645**, 22-29 (2003) "Multiple Sugar Binding Sites in α -Glucosidase"
- E.B. Golden, X. Yao, A. O'Donnell and L.D. Byers, *FASEB Journal* **17**, A983 (2003) "Solvent Isotope Effects on Binding to Glucosidases"
- E.M. Bowers, L.O. Ragland and L.D. Byers, *FASEB Journal* **18**, C140 (2004) "Specific Salt Effects on β -Glucosidase"
- A.H. O'Donnell, X. Yao and L.D. Byers, *Biochim. Biophys. Acta* **1703**, 63-67 (2004) "Solvent Isotope Effects on α -Glucosidase"

H. Shen and L.D. Byers, *Biochem. Biophys. Res. Commun.* **362**, 717-720 (2007)
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E.M Bowers, L.O. Ragland and L.D. Byers, *Biochim. Biophys. Acta* **1774**, 1500-1507 (2007)
"Salt Effects on β -Glucosidase: pH Profile Narrowing"

E.B. Golden and L.D. Byers, *Biochim. Biophys. Acta* **1794**, 1643-1647 (2009) "Methyl
Glucoside Hydrolysis Catalyzed by β -Glucosidase"