

Academic CV-Bibliography

(September 2014)

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EDUCATION:

1975 Ph.D., University of California, Berkeley
(Organic Chemistry)

1970 M.Sc., Massey University, Palmerston North, New Zealand
(Chemistry/Biochemistry)

1968 B.Sc., Victoria University of Wellington, New Zealand
(Chemistry and Biochemistry, double major)

PROFESSIONAL APPOINTMENTS:

2002 - Professor of Chemistry
The University of Chicago

2001- Professor, Biochemistry & Molecular Biology
Professor, Institute for Biophysical Dynamics
Professor, The College
The University of Chicago

2003 -2009 Director, Institute for Biophysical Dynamics
The University of Chicago

2000-2001 Chief Technology Officer

1999-2000 CEO

1997-2000 President & Chief Scientist
Gryphon Sciences, South San Francisco, California

1991-1996 Member, Cell Biology
Professor, Macromolecular and Cellular Structure and Chemistry
The Scripps Research Institute

1989-1990 Professor and Associate Dean
Graduate School of Science and Technology
Bond University, Queensland, Australia
Joint Director, Burroughs Wellcome-Bond University Research
Program (Protease Inhibitor AIDS Drug Development)

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- 1983-1989 Senior Research Associate
Division of Biology
California Institute of Technology
Pasadena, California
- 1982 Director of Protein Chemistry
Molecular Genetics Inc., Minnesota
- 1977-1981 Assistant Professor
Laboratory of R.B. Merrifield
The Rockefeller University, New York
- 1974-1977 Research Associate
Laboratory of R.B. Merrifield
The Rockefeller University, New York

HONORS:

- 2013 *Leach Medal*
Lorne Conference on Protein Structure and Function
- 2011 *Bader Award in Bioorganic Chemistry*
American Chemical Society
- 2010 *Akabori Memorial Award*
Japanese Peptide Society
- 2010 *Josef Rudinger Memorial Lecture Award*
European Peptide Society
- 2009 *Honorary Member*
Israel Chemical Society
- 2009 *R. Bruce Merrifield Award*
American Peptide Society
- 2008 *Fellow*
Royal Society of Chemistry
- 2006 *Honorary Fellow*
Royal Society of New Zealand
- 2004 *Vincent du Vigneaud Award*
American Peptide Society
- 2002 *E T Kaiser Award*
The Protein Society
- 2000 *Fellow*
American Association for the Advancement of Science
- 1994 *Hirschmann Award in Peptide Chemistry*

Stephen Kent - CV & Bibliography

American Chemical Society
1968 *Senior Scholar (top graduate in Biochemistry)*
Victoria University of Wellington, New Zealand

ACADEMIC ADVISORY BOARDS (selected)

2001-2004 Scientific Advisory Board, Institute for Molecular Bioscience,
University of Queensland, Australia
1991-1996 Scientific Advisory Board, The New York Blood Center, New York
1990-1992 Scientific Advisory Board, National Biomolecular Mass Spectrometry
Resource, The Rockefeller University, New York

BIBLIOGRAPHY

Theses

M.Sc. Peptide Sequences by Mass Spectrometry.
Massey University, New Zealand, 1970

Ph.D. Specific Chemical Modification and ^{13}C -NMR Properties of the
Lysine at the Active Site of Liver Alcohol Dehydrogenase (LADH).
University of California, Berkeley, 1975.

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Primary Publications in Refereed Journals

1. The mass spectra of some permethylated acetylpeptides. Hodges R., Kent S.B.H., Richardson B.C. *Biochim Biophys Acta* **257**, 54 (1972).
2. Formation of non-amidine products in the reaction of primary amines with imido esters. Browne D.T., Kent S.B.H. *Biochem Biophys Res Comm* **67**, 126 (1975).
3. Formation of non-amidine products in the chemical modification of horse liver alcohol dehydrogenase with imido esters. Browne D.T., Kent S.B.H. *Biochem Biophys Res Comm* **67**, 133 (1975).
4. Preparation of aminomethyl-polystyrene resin by direct amidomethylation. Mitchell A.R., Kent S.B.H., Erickson B.W., Merrifield R.B. *Tetrahedron Lett*, **17**, 3795-98 (1976).
5. Test for racemization in model peptide synthesis by direct chromatographic separation of the diastereoisomers of the tetrapeptide leucylalanylglycylvaline. Kent S.B.H., Mitchell A.R., Barany G., Merrifield R.B. *Anal Chem* **50**, 155-159 (1978).
6. Quantitative determination of D- and L-amino acids: Reaction with tert-butyloxycarbonyl-L-leucine N-hydroxysuccinimide ester and chromatographic separation as L,D and L,L dipeptides. Mitchell A.R., Kent S.B.H., Chu I.R., Merrifield R.B. *Anal Chem* **50**, 637 (1978).
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8. Mechanisms and prevention of trifluoroacetylation in solid phase peptide synthesis. Kent S.B.H., Mitchell A.R., Engelhard M., Merrifield R.B. *Proc Natl Acad Sci USA* **76**, 2180-2184 (1979).
9. Preparation and properties of tert-butyloxycarbonylaminoacyl-4-(oxymethyl)phenylacetamidomethyl-(Kel F-g-styrene) resin, an insoluble, noncrosslinked support for solid phase peptide synthesis. Kent S.B.H., Merrifield R.B. *Isr. J Chem* **17**, 243 (1978).
10. Improved synthesis of Boc-aminoacyl-4-oxymethylphenylacetic acids for use in solid phase peptide synthesis. Tam J.P., Kent S.B.H., Wong T.-W., Merrifield R.B. *Synthesis*, 955 (1979).

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11. Properties of swollen polymer networks: Solvation and swelling of peptide-containing resins in solid phase peptide synthesis. Sarin V.K., Kent S.B.H., Merrifield R.B. *J Am Chem Soc* **102**, 5463-5470 (1980).
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17. Protein microsequencing by post-column fluorescent phenylisothiocyanates. L'Italien J.J. and Kent S.B.H. *J Chromatog*, **283**, 149-156 (1984).
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60. Covalent immobilization of proteins for high sensitivity sequence analysis: electroblotting onto chemically-activated glass from SDS-polyacrylamide gels. Aebersold R.A., Pipes G.D., Nika H., Hood L.E. and Kent S.B.H. *Biochemistry*, **27**, 6860-6867 (1988).
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63. Enzymatic activity of a synthetic 99 residue protein corresponding to the putative HIV-1 protease. Schneider J., Kent S.B.H. *Cell* **54**, 363-368 (1988).
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67. Chemical synthesis in protein engineering: total synthesis, purification, and covalent structural characterization of a mitogenic protein, human transforming growth factor- α . Woo D. D.-L., Clark-Lewis I., Chait B.T., Kent S.B.H. *Protein. Eng.*, **3**, 29-37 (1989).
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80. "In situ" neutralization protocols in Boc-chemistry solid phase peptide synthesis: rapid, high yield assembly of difficult sequences. Schnölzer M., Alewood P., Alewood D., Kent S.B.H., *Int.J.Pept.Prot.Res.*, **40**, 180-193 (1992).

**Republished, with commentary & posthumous dedication to R.B. Merrifield:*
"In situ" neutralization protocols in Boc-chemistry solid phase peptide synthesis: rapid, high yield assembly of difficult sequences. Schnölzer M., Alewood P., Alewood D., Kent S.B.H., *International Journal of Peptide Research and Therapeutics*, **13**, 31-44 (2007).
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7,588,906	Hydrogels for biomolecule analysis and corresponding method to analyze biomolecules
7,482,425	Compositions for lipid matrix-assisted chemical ligation
7,408,026	Synthesis of proteins by native chemical ligation
7,341,874	Method for detecting post-translation modifications of peptides
7,135,279	D-receptor compositions and methods of their use
7,118,856	D-enzyme compositions and methods of their use
7,118,737	Polymer-modified synthetic proteins
7,094,871	Solid phase native chemical ligation of unprotected or N-terminal cysteine protected peptides in aqueous solution
7,030,218	Pseudo native chemical ligation
7,030,217	Solid phase native chemical ligation of unprotected or N-terminal cysteine protected peptides in aqueous solution
6,977,292	Nucleophile-stable thioester generating compounds, methods of production and use
6,844,161	Modular protein libraries and methods of preparation
6,750,061	Sequence determination of peptides using a mass spectrometer
6,642,357	Process for preparing modified proteins
6,548,279	D-enzyme compositions and methods of their use
6,495,314	Process for characterizing proteins.
6,476,190	Process for preparing modified proteins.
6,451,543	Lipid matrix-assisted chemical ligation and synthesis of membrane polypeptides
6,326,468	Solid phase native chemical ligation of unprotected or n-terminal cysteine protected peptides in aqueous solution
6,307,018	General chemical ligation

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6,271,037	Method and product for the sequence determination of peptides using a mass spectrometer
6,228,654	Methods for structure analysis of oligosaccharides
6,184,344	Synthesis of proteins by native chemical ligation
6,040,133	D-enzyme compositions and methods of their use
5,977,301	Synthesis of N-substituted oligomers
5,910,437	D-enzyme compositions and methods of their use
5,891,993	Template assembled synthetic protein
5,854,389	Process for preparing modified proteins
5,831,005	Synthesis of N-substituted oligomers
5,792,664	Methods for producing and analyzing biopolymer ladders
5,620,844	Assays for detecting hepatitis B virus envelope antigens or antibodies thereto and diagnostic test kits for use in performing the assays
5,565,548	Pre-S gene coded peptide hepatitis B immunogens and synthetic lipid vesicle carriers
5,273,715	Automated system for providing a sequence of chemicals to a reaction process
5,204,096	Pre-S gene coded peptide hepatitis B immunogens, vaccines, diagnostics, and synthetic lipid vesicle carriers
5,186,898	Automated polypeptide synthesis apparatus
5,158,769	Pre-S gene coded peptide hepatitis B immunogens, vaccines, diagnostics, and synthetic lipid vesicle carriers
4,861,588	Pre-S gene coded peptide hepatitis B immunogens, vaccines, diagnostics, and synthetic lipid vesicle carriers
4,847,080	Pre-S gene coded peptide hepatitis B immunogens, vaccines, diagnostics, and synthetic lipid vesicle carriers
4,816,513	Automated polypeptide synthesis process
4,668,476	Automated polypeptide synthesis apparatus
4,548,904	Protein sequencing method