

# Curriculum Vitae

## Personal Data

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## Education

1983 B.S., Chemistry (departmental honors); Stanford University, Palo Alto, CA  
1986-1988 Visiting Scholar; Swiss Federal Technical Institute, Zurich, Switzerland  
1988 Ph.D., Chemistry; Harvard University, Cambridge, MA

## Postgraduate Training

1988-1990 Postdoctoral Fellow (Advisor: Fred E. Cohen), Department of Pharmaceutical Chemistry and Computer Graphics Lab, University of California, San Francisco, CA (UCSF)

## Professional Experience

1990-1993 Assistant Research Chemist, Department of Pharmaceutical Chemistry, UCSF  
1993-1999 Computational Biologist, ZymoGenetics, Inc., Seattle, WA  
1999-2001 Senior Computational Biologist, ZymoGenetics, Inc., Seattle, WA  
2001-2003 Computational Biology Director, ZymoGenetics, Inc., Seattle, WA  
2003-2010 Scientific Computing Director, ZymoGenetics, Inc., Seattle, WA  
2011-2014 Bioinformaticist II, Benaroya Research Institute, Seattle, WA  
2014-present Research Associate Member, Benaroya Research Institute, Seattle, WA  
2014-present Manager, Bioinformatics Core, Benaroya Research Institute, Seattle, WA

## Affiliations

American Association for the Advancement of Science, Member  
American Chemical Society, Member

## Publications

1. Nambiar KP, Stackhouse J, **Presnell SR**, Benner SA. Expression of bovine pancreatic ribonuclease A in *Escherichia coli*. *Eur J Biochem*. 1987 Feb 16;163(1):67-71. PubMed PMID: 3545826.
2. **Presnell SR**, Benner SA. The design of synthetic genes. *Nucleic Acids Res*. 1988 Mar 11;16(5):1693-702. PubMed PMID: 2451218, PMCID: PMC338164.
3. Cohen FE, Gregoret L, **Presnell SR**, Kuntz ID. Protein structure predictions: new theoretical approaches. *Prog Clin Biol Res*. 1989;289:75-85. PubMed PMID: 2657754.

4. **Presnell SR**, Cohen FE. Topological distribution of four-alpha-helix bundles. *Proc Natl Acad Sci U S A*. 1989 Sep;86(17):6592-6. PubMed PMID: 2771946, PMCID: PMC297890.
5. Stackhouse J, **Presnell SR**, McGeehan GM, Nambiar KP, Benner SA. The ribonuclease from an extinct bovid ruminant. *FEBS Lett*. 1990 Mar 12;262(1):104-6. PubMed PMID: 2318301.
6. Allemann RK, **Presnell SR**, Benner SA. A hybrid of bovine pancreatic ribonuclease and human angiogenin: an external loop as a module controlling substrate specificity? *Protein Eng*. 1991 Oct;4(7):831-5. PubMed PMID: 1798706.
7. Cohen BI, **Presnell SR**, Cohen FE. Pattern-based approaches to protein structure prediction. *Methods Enzymol*. 1991;202:252-68. PubMed PMID: 1784177.
8. Curtis BM, **Presnell SR**, Srinivasan S, Sassenfeld H, Klinke R, Jeffery E, Cosman D, March CJ, Cohen FE. Experimental and theoretical studies of the three-dimensional structure of human interleukin-4. *Proteins*. 1991;11(2):111-9. PubMed PMID: 1946344.
9. **Presnell SR**, Cohen BI, Cohen FE. A segment-based approach to protein secondary structure prediction. *Biochemistry*. 1992 Feb 4;31(4):983-93. PubMed PMID: 1734974.
10. Boissel JP, Lee WR, **Presnell SR**, Cohen FE, Bunn HF. Erythropoietin structure-function relationships. Mutant proteins that test a model of tertiary structure. *J Biol Chem*. 1993 Jul 25;268(21):15983-93. PubMed PMID: 8340419.
11. Cohen BI, **Presnell SR**, Cohen FE. Origins of structural diversity within sequentially identical hexapeptides. *Protein Sci*. 1993 Dec;2(12):2134-45. PubMed PMID: 8298461, PMCID: PMC2142335.
12. **Presnell SR**, Cohen BI, Cohen FE. MacMatch: a tool for pattern-based protein secondary structure prediction. *Comput Appl Biosci*. 1993 Jun;9(3):373-4. PubMed PMID: 8324639.
13. **Presnell SR**, Cohen FE. Artificial neural networks for pattern recognition in biochemical sequences. *Annu Rev Biophys Biomol Struct*. 1993;22:283-98. PubMed PMID: 8347992.
14. Harris NL, **Presnell SR**, Cohen FE. Four helix bundle diversity in globular proteins. *J Mol Biol*. 1994 Mar 11;236(5):1356-68. PubMed PMID: 8126725.
15. Lok S, Kaushansky K, Holly RD, Kuijper JL, Lofton-Day CE, Oort PJ, Grant FJ, Heipel MD, Burkhead SK, Kramer JM, Bell LA, Sprecher CA, Blumberg H, Johnson R, Prunkard D, Ching AFT, Bailey MC, Forstron JW, Buddle MM, Osborn SG, Evans SJ, Sheppard PO, **Presnell SR**, O'Hara PJ, Hagen FS, Roth GR, Foster DC. Cloning and expression of murine thrombopoietin cDNA and stimulation of platelet production in vivo. *Nature*. 1994 Jun 16;369(6481):565-8. PubMed PMID: 8202158.
16. Sprecher CA, Grant FJ, Baumgartner JW, **Presnell SR**, Schrader SK, Yamagiwa T, Whitmore TE, O'Hara PJ, Foster DF. Cloning and characterization of a novel class I cytokine receptor. *Biochem Biophys Res Commun*. 1998 May 8;246(1):82-90. PubMed PMID: 9600072.
17. Xu WF, Andersen H, Whitmore TE, **Presnell SR**, Yee DP, Ching A, Gilbert T, Davie EW, Foster DC. Cloning and characterization of human protease-activated receptor 4. *Proc Natl Acad Sci U S A*. 1998 Jun 9;95(12):6642-6. PubMed PMID: 9618465, PMCID: PMC22580.
18. Parrish-Novak J, Dillon SR, Nelson A, Hammond A, Sprecher C, Gross JA, Johnston J, Madden K, Xu W, West J, Schrader S, Burkhead S, Heipel M, Brandt C, Kuijper JL, Kramer J, Conklin D, **Presnell SR**, Berry J, Shiota F, Bort S, Hambly K, Mudri S, Clegg C, Moore M, Grant FJ, Lofton-Day C, Gilbert T,

- Rayond F, Ching A, Yao L, Smith D, Webster P, Whitmore T, Maurer M, Kaushansky K, Holly RD, Foster D. Interleukin 21 and its receptor are involved in NK cell expansion and regulation of lymphocyte function. *Nature*. 2000 Nov 2;408(6808):57-63. PubMed PMID: 11081504.
19. Xu W, **Presnell SR**, Parrish-Novak J, Kindsvogel W, Jaspers S, Chen Z, Dillon SR, Gao Z, Gilbert T, Madden K, Schlutsmeyer S, Yao L, Whitmore TE, Chandrasekher Y, Grant FJ, Maurer M, Jelinek L, Storey H, Brender T, Hammond A, Topouzis S, Clegg CH, Foster DC. A soluble class II cytokine receptor, IL-22RA2, is a naturally occurring IL-22 antagonist. *Proc Natl Acad Sci U S A*. 2001 Aug 14;98(17):9511-6. PubMed PMID: 11481447, PMCID: PMC55483.
  20. Moore EE, **Presnell S**, Garrigues U, Guilbot A, LeGuern E, Smith D, Yao L, Whitmore TE, Gilbert T, Palmer TD, Horner PJ, Kuestner RE. Expression of IL-17B in neurons and evaluation of its possible role in the chromosome 5q-linked form of Charcot-Marie-Tooth disease. *Neuromuscul Disord*. 2002 Feb;12(2):141-50. PubMed PMID: 11738356.
  21. Sheppard P, Kindsvogel W, Xu W, Henderson K, Schlutsmeyer S, Whitmore TE, Kuestner R, Garrigues U, Birks C, Roraback J, Ostrander C, Dong D, Shin J, **Presnell S**, Fox B, Haldeman B, Cooper E, Taft D, Gilbert T, Grant FJ, Tackett M, Krivan W, McKnight G, Clegg C, Foster D, Klucher KM. IL-28, IL-29 and their class II cytokine receptor IL-28R. *Nat Immunol*. 2003 Jan;4(1):63-8. PubMed PMID: 12469119.
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  23. Kuestner RE, Taft DW, Haran A, Brandt CS, Brender T, Lum K, Harder B, Okada S, Ostrander CD, Kreindler JL, Aujla SJ, Reardon B, Moore M, Shea P, Schreckhise R, Bukowski TR, **Presnell S**, Guerra-Lewis P, Parrish-Novak J, Ellsworth JL, Jaspers S, Lewis KE, Appleby M, Kolls JK, Rixon M, West JW, Gao Z, Levin SD. Identification of the IL-17 receptor related molecule IL-17RC as the receptor for IL-17F. *J Immunol*. 2007 Oct 15;179(8):5462-73. PubMed PMID: 17911633, PMCID: PMC2849293.
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  26. Obermoser G, **Presnell S**, Domico K, Xu H, Wang Y, Anguiano E, Thompson-Snipes L, Ranganathan R, Zeitner B, Bjork A, Anderson D, Speake C, Ruchaud

- E, Skinner J, Alsina L, Sharma M, Dutartre H, Cepika A, Israelsson E, Nguyen P, Nguyen QA, Harrod AC, Zurawski SM, Pascual V, Ueno H, Nepom GT, Quinn C, Blankenship D, Palucka K, Banchereau J, Chaussabel D. Systems scale interactive exploration reveals quantitative and qualitative differences in response to influenza and pneumococcal vaccines. *Immunity*. 2013 Apr 18;38(4):831-44. PubMed PMID: 23601689, PMCID: PMC3681204.
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  29. Li S, Roupheal N, Duraisingham S, Romero-Steiner S, **Presnell S**, Davis C, Schmidt DS, Johnson SE, Milton A, Rajam G, Kasturi S, Carlone GM, Quinn C, Chaussabel D, Palucka AK, Mulligan MJ, Ahmed R, Stephens DS, Nakaya HI, Pulendran B. Molecular signatures of antibody responses derived from a systems biology study of five human vaccines. *Nat Immunol*. 2014 Feb;15(2):195-204. PubMed PMID: 24336226, PMCID: PMC3946932.
  30. Speake C, **Presnell S**, Domico K, Zeitner B, Bjork A, Anderson D, Mason MJ, Whalen E, Vargas O, Popov D, Rinchai D, Jourde-Chiche N, Chiche L, Quinn C, Chaussabel D. An interactive web application for the dissemination of human systems immunology data. *J Transl Med*. 2015;13:196. PMID: 26088622, PMCID: PMC4474328.

### Book Chapters

1. Nambiar KP, Stackhouse J, **Presnell SR**, Benner SA. (1986) "Evolutionary Guidance and the Engineering of Enzymes," **Enzymes as Catalysts in Organic Synthesis**, (M. P. Scheider ed.), D. Reidel Publishing Co., pp. 325-340.
2. Cohen FE, Gregoret LM, **Presnell SR**, Kuntz ID. "Protein Structure Prediction: New Theoretical Approaches," (1989) **Computer-Assisted Modeling of Receptor-Ligand Interactions: Theoretical Aspects and Applications to Drug Design**, A. R. Liss, New York, pp. 75-85.
3. Cohen FE, **Presnell SR**, Gregoret LM, Kuntz ID. "Theoretical Approaches to the Prediction of Protein Structure" (1989) **Protein Folding: Deciphering the Second Half of the Genetic Code** (L. Gierasch and J. King, ed.) American Association for the Advancement of Science, Washington DC, pp. 251-258.
4. **Presnell SR**, Cohen BI, Cohen FE. "An Expert System for Secondary Structure Prediction" in **Patterns in Protein Sequence and Structure**, (1991) (ed. W.R. Taylor), Springer-Verlag, Heidelberg, Chapter 8, pp. 113-127.

### Patents (representative)

1. Julia E Novak, **Scott R Presnell**, Cindy A Sprecher, Donald C Foster, Richard D Holly, Jane A Gross, Janet V Johnston, Andrew J Nelson, Stacey R Dillon, Angela K Hammond Cytokine zalpha11 ligand (IL-21). (US#6307024). 2001.
2. Stephen R Jaspers, **Scott R Presnell**, Monica Huber, Antibodies that bind both IL-17A and IL-17F and methods of using the same. (US#7790163). 2010.
3. Paul O Sheppard, **Scott R Presnell**, Brian A Fox, Teresa Gilbert, Betty A Haldeman, Francis J. Grant. Method of using interferon-like protein zcyto21 (IL-29) to treat hepatitis C. (US#7655233) 2010
4. Katherine E Lewis, **Scott R Presnell**, James. W. West, Robert Mabry, Steven D Levin. IL-17 and IL-23 antagonists and methods of using the same. (US#7790862). 2010.