

Darren A. Thompson
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Education:

Post-Doctoral Scholar 2010-2015 The Scripps Research Institute

Ph.D. Chemistry and Biochemistry 2009 Univ. Calif. Santa Cruz

B.A. Biochemistry and Molecular Biology 1995 Univ. Calif. Santa Cruz Highest Honors

Honors:

ARCS (Achievement Rewards for College Scientists) Scholarship 2007

Dean's Undergraduate Award: Natural Sciences 1995

In Memory of Doug Drexler Chemistry Scholarship 1995

Skills:

- ◆ Arginine directed labeling
- ◆ Antibody conjugation
- ◆ Solid Phase Peptide Synthesis and Solid Phase Organic Synthesis
- ◆ Chemical Protein Synthesis
- ◆ Protein Expression (PCR, site-directed mutagenesis, transformation)
- ◆ Biomolecule Purification-most types-HPLC, FPLC, SPE, affinity chromatography
- ◆ Electrospray Mass Spectrometry and some MALDI
- ◆ Magnetic Resonance Spectroscopy-EPR and NMR (2-D Homonuclear and some Heteronuclear)
- ◆ Familiarity with UNIX/Linux operating systems

Experience:

Peptidaho PO Box 541 Sagle, ID 83860; Founder/CEO March 2016 - present

The Scripps Research Institute 10550 N. Torrey Pines Rd. San Diego, CA 92037

Post-Doctoral Research Associate June 2010-December 2015

- Premiered use of Triazolylphenylglyoxal reagents to chemoselectively modify Arginine residues
- Along with Dr. Phil Dawson developed a novel methodology for site specifically conjugating peptides to the major protein A binding site on the Fc region of an antibody
- Designed and synthesized small molecule bifunctional cross-linkers to covalently trimerize HIV env
- Made several distinct Quantum Dot conjugating peptides with the goal of brain imaging

Univ. Calif. Santa Cruz 1156 High St. Santa Cruz, CA 95064 Graduate student
Jan 2006-Dec 2009

- Found three new ligands for the melanocortin 7TM-GPCR system: defensins, β -MSH, and residues 14-19 of the melanocortin 4 receptor.
- Switched from chemical protein synthesis to bacterial protein expression in fabrication of Agouti Signaling Protein, the endogenous antagonist of the melanocortin 1 receptor.
- This research generated five published papers, including one Science paper and a PNAS paper.
- Advised by Dr. Glenn Millhauser, professor of chemistry, but worked autonomously on five different projects bringing all of them to satisfactory conclusion.

Univ. Calif. Santa Cruz 1156 High St. Santa Cruz, CA 95064 Post-Graduate
Researcher 1999-2005

- Developed a unique protocol for automated peptide synthesis as well as a novel method for site directed spin labeling while working for Dr.

Millhauser.

- Utilized a tri-peptoid scaffold to mimic antagonist binding of melanocortin receptors.
- This work resulted in one patent and one corresponding author paper. Co-authored eight other scientific papers.

Gryphon Sciences 250 East Grand Ave. Suite 90 South San Francisco, CA 94080; Scientist I July 1996 - Dec. 1996 Scientist II Jan. 1997 - Dec. 1997 Staff Scientist Jan. 1998 - July 1998

- Chemically synthesized over twenty different proteins using Native Chemical Ligation under the tutelage of Dr. Stephen Kent. Among these were a number of different chemokines: SDF-1 α , RANTES, AOP-RANTES, NNY-RANTES, MIP-1 α , MIP-1 β , Gro- α , Gro- β , vMIP-II, Fractalkine, and other proprietary chemokines.
- Worked directly with Dr. Robin Offord on the development of highly potent HIV entry inhibitors.
- Collaborated with Drs. Gregory Barsh and Ira Gantz on the synthesis and bio-activity of Agouti Related Protein.
- This work produced twenty one publications in peer reviewed journals, including one Science article and numerous PNAS publications. In addition, two patents were filed, one of which is registered with the USPTO, the other WIPO. Published eight papers with Michael Siani, director of chemokine biology at Gryphon Sciences and founder / president of Theregen, a cell based cardiac therapy company.

Patents and Patent Applications:

US 6,168,784 N-TERMINAL MODIFICATIONS OF RANTES AND METHODS OF USE **Gryphon Sciences**

WO 99/50295: AGOUTI-RELATED PROTEIN ANALOGS AND METHODS OF USE **Gryphon Sciences**

WO 01/85930, US 20030064921: METHODS AND COMPOUNDS FOR MODULATING MELANOCORTIN RECEPTOR-LIGAND BINDING **UCSC**

Selected Publications:

Thompson DA, Ng R, Dawson PE. Arginine selective reagents for ligation to peptides and proteins. *J Pept Sci.* **2016** May;22(5):311-9.

Thompson DA, Evans EG, Kasza T, Millhauser GL, Dawson PE. Adapter reagents for protein site specific dye labeling. *Biopolymers:Peptide Science.* **2014** May 22;102(3):273-279.

Candille SI, Kaelin CB, Cattanaach BM, Yu B, **Thompson DA**, Nix MA, Kerns JA, Schmutz SM, Millhauser GL, Barsh GS. A β -Defensin Mutation Causes Black Coat Color in Domestic Dogs. *Science.* **2007** Nov 30;318(5855):1418-23.

Hartley O, Gaertner H, Wilken J, **Thompson D**, Fish R, Ramos A, Pastore C, Dufour B, Cerini F, Melotti A, Heveker N, Picard L, Alizon M, Mosier D, Kent S, Offord R. Medicinal chemistry applied to a synthetic protein: development of highly potent HIV entry inhibitors. *Proc Natl Acad Sci U S A.* **2004** Nov 23;101(47):16460-5.

Thompson DA, Chai B, Rood HLE, Siani MA, Douglas NR, Gantz I, Millhauser GL. Peptoid mimics of agouti related protein. *Bioorg Med Chem Lett* **2003** April 17, 13(8):1409-1413.

Campbell JJ, Hedrick J, Zlotnik A, Siani MA, **Thompson DA**, Butcher EC. Chemokines and the arrest of lymphocytes rolling under flow conditions. *Science* **1998** Jan 16;279(5349):381-4