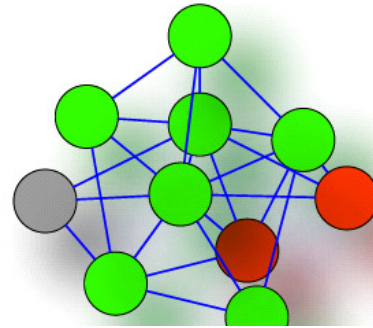


Thomas J. Begley, Ph.D.

Curriculum vita

Assistant Professor
Department of Biomedical Sciences
Ge*NY*Sis Center for Excellence in Cancer Genomics
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Education

University at Albany, State University of New York
B.S., Biochemistry and Molecular Biology
December 1993, Magna Cum Laude

University at Albany, State University of New York
Ph.D., Biological Sciences: *concentration*; Molecular Biology
May 2000

Thesis title: Mechanism of action of *Mig.Mth*: Substrate recognition by base flipping and chemical editing

Post-Doctoral Education

Harvard School of Public Health, Harvard University
Post Doctoral Associate, Department of Cancer Cell Biology
September 1999 – May 2001

Massachusetts Institute of Technology
Post Doctoral Fellow, Division of Biological Engineering, Center for Environmental Health Sciences
May 2001- August 2004

Professional Employment

University at Albany, State University of New York, in Affiliation with the Wadsworth New York State Public Health Laboratories
Assistant Professor, Department of Biomedical Sciences and Ge*NY*Sis Center for Excellence in Cancer Genomics
September 2004 - present

Honors

1993: Magna Cum Laude, University at Albany
1996: Peter Marfry Memorial Scholarship, University at Albany
2000: University at Albany Award for Excellence
2002: National Research Service Award, NIEHS-NIH
2003: Merck Computational and Systems Biology Fellowship
2004: NIEHS-NIH T.I.P. Award
2004: NYSTAR-James D. Watson Young Investigator Award

Professional Associations

1995 - present: American Association for the Advancement of Science
1998 - present: American Chemical Society
2004 - present: Environmental Mutagen Society

Editorial Boards and Peer Review

2004-present: Editorial Board for Reviews in Mutation Research, Elsevier
2004-present: Ad-Hoc Reviewer for DNA Repair

Manuscripts

Reviews (6)

Begley, T.J. and Samson, L.D. 2003. A fix for RNA. Nature 421: 795-796.

Begley, T.J. and Samson, L.D. 2003. AlkB mystery solved: Oxidative demethylation of *N1*-methyladenine and *N3*-methylcytosine adducts by a direct repair mechanism. Trends in Biochemical Sciences 28: 93-96.

Begley, T.J. and Samson, L.D. 2004. Network responses to damaging agents. DNA Repair 3:1123-1132.

Begley, T.J. and Samson, L.D. 2004. Reversing DNA damage with a directional bias. Nat Struct Mol Biol 8: 688-690.

Fry, R.C., **Begley, T.J.**, and Samson, L.D. 2005. Genome-wide responses to DNA-damaging agents. Annu Rev Microbiol 59: 357-377.

Begley, T.J. 2005. Interactomes as a base unit in systems biology. Biosystems 1: 2-8.

Refereed (9 published, 1 Accepted, and 2 in preparation)

Fetrow, J.S., Spitzer, J.S., Gilden, B.M., Mellender, S.J., **Begley, T.J.**, Haas, B.J., Boose, T.L. 1998. Structure, function, and temperature sensitivity of directed, random mutants at proline 76 and glycine 77 in omega-loop D of yeast iso-1-cytochrome c. Biochemistry 37: 2477-2487.

Begley, T.J. and Cunningham, R.P. 1999. *Methanobacterium thermoformicum* thymine DNA mismatch glycosylase: Conversion of an N-glycosylase to an AP lyase. Protein Engineering 12: 333-340.

Begley, T.J., Haas, B.J., Noel, J., Shekman, A., Williams, W.A., and Cunningham, R.P. 1999. A new member of the endonuclease III family of DNA repair enzymes which removes methylated purines from DNA. Current Biology 9: 653-656.

Begley, T.J., Jelinsky, S.A., and Samson, L.D. 2000. Complex transcriptional responses to macromolecular damaging agents: Regulatory responses specific for S_n2 alkylation and the MAG1 gene. Cold Spring Harbor Symposia on Quantitative Biology:

383-393.

Begley, T.J., Rosenbach, A.S., Ideker, T. and Samson, L.D. 2002. Recovery pathways in *S. cerevisiae* revealed by genomic phenotyping and interactome mapping. Mol Cancer Res 1: 103-112.

Mol, C.D., Arvai, A.S., **Begley, T.J.**, Cunningham, R.P., and Tainer, J.A. 2002. Structure and activity of a thermostable thymine-DNA glycosylase: Evidence for base twisting to remove mismatched normal DNA bases. J Mol Biol 315: 373-384.

Begley, T.J., Haas, B.J., Morales, J.C., Kool, E.T., and Cunningham, R.P. 2003. Kinetics and binding of the thymine-DNA mismatch glycosylase, Mig-*Mth*, with mismatch-containing DNA substrates. DNA Repair 2: 107-120.

Begley, T.J., Rosenbach, A.S., Ideker, T., and Samson, L.D. 2004. Hot spots for toxicity modulation identified by genomic phenotyping and localization mapping. Molecular Cell 16:117-125.

Said, M.R.* , **Begley, T.J.***, Oppenheim, A.V., Lauffenburger, D.A. and Samson, L.D. 2004. Global network analysis of phenotypic effects: Protein networks and *S. cerevisiae* damage recovery. PNAS 52: 18006-11.

*Authors contributed equally to work

Seminars and Presentations

- 1998: "Methanobacterium thermoformicum Thymine DNA Mismatch Glycosylase: The Effect of Strand Cleavage on Glycosylase Activity", Gordon Research Conference: Mutagenesis, Poster
- 1999: "Base Flipping and Chemical Editing in the Endonuclease III Family of DNA Glycosylases", Department of Cancer Cell Biology, Harvard School of Public Health, Seminar Host: Prof. Leona Samson
- 1999: "Substrate Recognition by Members of the Endonuclease III Family of DNA glycosylases", American Society for Microbiology conference on DNA Repair and Mutagenesis, Poster
- 2000: "Phenotypic Macroarrays Using DNA Damaging Agents", Department of Cancer Cell Biology, Harvard School of Public Health, Seminar Host: Prof. Karl Kelsey
- 2001: "Coordinated Cellular Responses to Macromolecular Damaging Agents Identified Using Organized Toxicogenomic Screens", Gordon Research Conference: Genetic Toxicology, Poster

- 2001: “Genomic Phenotyping in *Saccharomyces cerevisiae*”, Toxicology Group, Division of Bioengineering and Environmental Health, Massachusetts Institute of Technology,
Seminar Host: Dr. Peter Wishnok
- 2002: “Genomic Phenotyping”, Cancer Center Research Focus, Massachusetts Institute of Technology,
Seminar Host: Prof. Philip Sharp
- 2002: “Recovery Pathways in *S. cerevisiae* Revealed by Genomic Phenotyping and Interactome Mapping”, Gordon Research Conference: Mutagenesis, Poster
- 2002: “Damage Resistance Pathways in *S. cerevisiae*”, American Chemical Society National Meeting,
Seminar Host: Division of Chemical Toxicology
- 2002: “Recovery Pathways in *S. cerevisiae* Revealed by Genomic Phenotyping and Interactome Mapping”, Whitehead Institute, Massachusetts Institute of Technology,
Seminar Host: Prof. Susan Lindquist.
- 2003: “Complex Cellular Responses to Damage: A Systems Overview ”. Gordon Research Conference: Mammalian DNA Repair,
Seminar Host: Prof. Richard Wood
- 2003: “Network Maps in DNA Repair ”. NIH-EU International Conference on Molecular Signatures of DNA Damage Induced Stress Response,
Seminar Host: Prof. Ben Van Houten, NIEHS-NIH
- 2004: “From Systems to Molecules, Complex Cellular Responses to Damage” Netherlands Cancer Institute, Antoni van Leeuwenhoek Hospital,
Seminar Host: Prof. Laura J. van't Veer
- 2004: “From Systems to Molecules, Complex Cellular Responses to Damage” American Society for Microbiology International Conference on DNA Repair,
Seminar Host: Prof. Graham Walker
- 2005: “Genomic Phenotyping and Interactome Mapping Reveal New Damage Response Pathways”, Gordon Conference on Toxicogenomics,
Seminar Host: Prof. Dan Leibler
- 2005: “Location, Location, Location and Toxicity Modulation”, Environmental Mutagen Society, Kos Greece,
Seminar Host: Prof. Leon Mulenders
- 2005: “Systems Based Computational Methods to Identify Toxicity Modulating Hot Spots and Protein Networks”, Keynote Speaker at Merck Computational and Systems Biology Symposium,

Keynote Seminar Host: Merck Research Labs, Boston MA

- 2005: "Systems Based Computational Approaches to Identify Toxicity Modulating Pathways ". NIH-EU International Conference on Molecular Signatures of DNA Damage Induced Stress Response, Poster
- 2005: "Damage-induced tRNA Modifications and the DNA Damage Response" Host: Randy Morse, Center for Medical Sciences
- 2005: "Complex Damage Response Systems, and a Damage Code?" Speaker at BMS/Wadsworth Retreat, Host: Keith Derbyshire, BMS / Wadsworth

Teaching and Administrative Experience

- Feb. 2002: Systems Pharmacology and Toxicology, BEH.201 "Global Transcriptional Profiling, DNA Chips and Genomics", Guest Lecturer, Division of Bioengineering and Environmental Health, Massachusetts Institute of Technology
- Feb. 2005: Biomedical Sciences 500b "DNA Recombination". 3 Lectures on double strand break repair and recombination in normal biological processes and human disease. Graduate Level, University at Albany
- May 2005: Biomedical Sciences 601b , lecture on microarray based screens to identify drug targets. Graduate Level, University at Albany-Wadsworth New York State Public Health Labs
- May 2005: Genetics 212, Undergraduate level. Taught 50% of a Sophomore level course in the Biology Department, University at Albany
- Sept. 2005: Biomedical Sciences 601a, 7 Lectures on NIH Pre- and Post-Doctoral Fellowships / Administered Grant Writing Project, Graduate Level, University at Albany – Wadsworth New York State Public Health Labs
- Oct. 2004 - Present: Cancer Biology Course Development Committee, University at Albany – Wadsworth New York State Public Health Labs
- June 2005 – Present: Biomedical Sciences 601 Course Development Committee, University at Albany – Wadsworth New York State Public Health Labs
- Oct. 2005 - Present: Chair, Graduate Student Recruitment Committee, Department of Biomedical Sciences, University at Albany – Wadsworth New York State Public Health Labs

Students and Post Doctoral Associates

Summer 2005: TaRhonda Moore, McNair Fellow Undergraduate Research
Nov. 2004 – Present: Sunil Deshani, Thesis Committee, Department of
Biological Sciences
June 2005 – Present: Dan Direnzo, Biological Sciences, Undergraduate Study
June 2005 – Present: Collin Ellis, Biological Sciences, Undergraduate Study
June 2005 – Present: Stephen Bonsu, Biological Sciences Undergraduate Study
Dec. 2005 – Present: Erin Bessier, Post Doctoral Associate
Feb. 2006 – Present: Debra Singer, Thesis Committee, Department of
Biomedical Sciences
Feb. 2006 – Present: John Frampton, Thesis Committee, Department of
Biomedical Sciences
March 2006 – Present: Ajish George, Thesis Committee, Department of
Biomedical Sciences