

CURRICULUM VITAE
OF
ROBERT J. DANAHER, Ph.D.
January 2002

GENERAL INFORMATION

Work Address: Dept. of Oral Health Science
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EDUCATION

1991 - 1994	Ph.D. University of Maryland College Park, MD 20742
1982 - 1986	Bachelor of Science General Biological Sciences University of Maryland College Park, MD 20742

HONORS AND AWARDS

1993	Andrew J. Moyer Memorial Award
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RESEARCH AND PROFESSIONAL EXPERIENCE

1985-1986	Undergraduate Student Research Assistant, Department of Microbiology, University of Maryland, College Park, MD.
1987 - 1991	Faculty Research Assistant, Department of Microbiology, University of Maryland, College Park, MD.
1991 - 1992	Graduate Teaching Assistant, Department of Microbiology, University of Maryland, College Park, MD.
1992 - 1994	Graduate Research Assistant, Department of Microbiology, University of Maryland, College Park, MD.
1994 - 1996	Postdoctoral Fellow, Department of Oral Health Science, University of Kentucky, Lexington, KY.
1996 - 1999	Research Associate, Department of Oral Health Science, University of Kentucky, Lexington, KY.
1999 – Present	Research Assistant Professor, Department of Oral Health Science, University of Kentucky, Lexington, KY.

MENTORING STUDENT RESEARCH

1994-1995	Brian Romick, "Effect of Heat Shock and UV Light on Transcriptional Regulation of HSV-1 LATs"
1994-1996	Debbie Royse, "Effect of UV-light and Cytokines on HSV-1 Replication and LATS Expression."
1995-1996	David Gover, "Nitric Oxide Activates Transcription of IE110 and LATS."
1997-1998	Mario Chorak, "Effect of Heat Shock on Herpes Simplex Virus I Reactivation from PC-12 Latency."

1997-1998	You Xia, "Effect of LAT on Herpes Simplex Virus Reactivation from PC-12 Latency."
1997-1999	Stephen Hambley, "Effect of UV-Irradiation and Estrogen on Herpes Simplex Virus I Reactivation from PC-12 Latency."
1998-1999	Chris Freeman, "Characterization of a Persistent HSV-1 Infection in PC12 Cells."
1998-1999	Donna Veid, "Growth Kinetics and Level of Viral Gene Expression in HSV-1 infected PC12 and Vero Cells."
1998-1999	Stephen Hambley, "Effect of Estrogen on Herpes Simplex Virus I Reactivation from PC-12 Latency."
1998	Robin Dunlop, "Effect of Pituitary Adenylate Cyclase Peptide on Herpes Simplex Virus I Activation from Quiescently Infected PC-12 Cells."
1999	Maria Bustamante, "Effect of Estrogen on Herpes Simplex Virus I Activation from Quiescently Infected PC-12 Cells."
1999	Steve Lubbe, "Establishment of Herpes Simplex Virus Type II Quiescent State in PC-12 Cells."
1999-2000	Mike Glasmaier, "Effect of Forskolin and Heat Stress on Herpes Simplex Virus Type II Activation from PC-12 Latency."
1999	Natalie Jensen, "Identification of a Forskolin Responsive Herpes Simplex Virus I Gene."
1999-2000	Chris Freeman, "Mapping the Heat Stress Response Element Associated with Herpes Simplex Virus I Re-activation."
1999-2000	Emily Ruda, "Effect of soluble cAMP on Herpes Simplex Virus Type I Activation from PC-12 Latency."
1999-present	Amber Savells-Arb, "Effect of Pituitary Adenylate Cyclase Activating Peptide on Herpes Simplex Virus Type I Activation from PC-12 Latency."
2000-2001	Andrea Jill Kelley, "Effect of Soluble cAMP Analogues and Pituitary Adenylate Cyclase Activating Peptide on Herpes Simplex Virus Type I Activation from PC-12 Latency."
2000-2001	Samuel Black, "Pathogenic Requirements of HSV-1 Latency and Reactivation in vitro."
2001	Shera Rice, "Effect of Trichostatin on the Activation of Quiescent HSV-1"
2001	Josh Howard, "Effect of Subthreshold dose of Trichostatin on the Forskolin-induced Activation of Quiescent HSV-1"
2001	Bracken Lewis, "Effect of Sodium Butyrate on the Activation of Quiescent HSV-1"
2001	Craig Johnson, "Mapping the Forskolin Response Element in the HSV-1 Alpha 0 promoter."

2001 Brian Hardy, "Interleukin-1 gene polymorphism and periodontal status."

AWARDS RECEIVED BY MENTORED STUDENTS

- 1996 Edward M. Hatton Award Competitor, David Gover, "Nitric Oxide Activates Transcription of IE110 and LATS."
- 1998 Edward M. Hatton Award Finalist, Mario Chorak, "Effect of Heat Shock on Herpes Simplex Virus I Reactivation from PC-12 Latency" awarded by American Association of Dental Research.
- 1999 Howard Hughes Medical Institute Research Fellowship to Natalie Jensen, "Identification of a Forskolin Responsive Herpes Simplex Virus I Gene."
- 1999 AADR Student Research Fellowship to Chris Freeman, "Mapping the Heat Stress Response Element Associated with Herpes Simplex Virus I Re-activation" awarded by American Association of Dental Research.
- 1999 1st Place, ADA Dentsply Student Research Award to Chris Freeman, "Characterization of a Persistent Herpes Simplex Virus I Infection in PC12 Cells", ADA Annual meeting Honolulu, Hawaii.
- 1999 1st Place, Hinman Student Research Award to Chris Freeman, "Characterization of a Persistent Herpes Simplex Virus I Infection in PC12 Cells", Hinman Student Research meeting, Memphis, Tennessee.
- 2000 Student Research Fellowship, Samuel Black, awarded by American Association of Dental Research, "Pathogenic requirements of HSV-1 latency and reactivation in vitro."
- 2001 Edward M. Hatton Award Semi-Finalist, Samuel Black, awarded by American Association of Dental Research, "PACAP Reactivates HSV-1 from Quiescently infected Neurally Differentiated PC12 Cells."
- 2002 National Institutes of Health Summer Fellowship, awarded to Samuel Black by National Institutes of Health.

PATENTS

"Neuronal Cell Model and Methods of Use Therefor." United States Patent 6,268,124, July 31, 2001 (Application No. 09/272,158 File date April 24, 1998)

"HSV-2 Quiescent State in Neuronally Differentiated PC12 cells" Submitted to U.S. patent office October 27, 2000 Serial No. 60/243701.

RESEARCH AND CREATIVE ACTIVITY

Publications:

1. **Danaher R. J.**, A. D. Savells-Arb, S. A. Black, R. J. Jacob, and C. S. Miller. 2001. Herpesvirus quiescence in neuronal cells IV: Virus activation induced by pituitary adenylate cyclase-activating polypeptide (PACAP) involves the protein kinase A pathway. *J NeuroVirol* 7:163-168.
2. **Danaher R. J.**, R. J. Jacob, and C. S. Miller. 2000. Herpesvirus quiescence in neuronal cells III: Antiviral conditions not required to establish and maintain HSV-2 quiescence. *J. NeuroVirol.* 6:296-302.

3. **Danaher R. J.**, R. J. Jacob, M. D. Chorak, C. Freeman, and C. S. Miller. 1999. Heat stress activates production of herpes simplex virus type 1 from quiescently infected neurally differentiated PC12 cells. *J. NeuroVirol.* 5:374-383.
4. **Danaher R. J.**, R. J. Jacob, and C. S. Miller. 1999. Establishment of a quiescent herpes simplex virus type 1 infection in PC12 cells. *J. NeuroVirol.* 5:258-267.
5. Miller C. S., **R. J. Danaher**, and R. J. Jacob. 1998. Molecular aspects of herpes simplex virus 1 latency, reactivation, and recurrence. *Crit. Rev. Oral Biol. Oral Med.* 9:541-562.
6. Burch C.L., **R. J. Danaher**, and D. C. Stein. 1997. Antigenic variation in Neisseria gonorrhoeae: Production of multiple lipooligosaccharides. *J. Bacteriol.* 179:982-986.
7. **Danaher R. J.**, J. Levin, D. Arking, C. Burch, R. Sandlin, and D. C. Stein. 1995. Genetic basis of Neisseria gonorrhoeae lipooligosaccharide antigenic variation. *J. Bacteriol.* 177:7275-7279.
8. **Danaher R. J.**, and D. C. Stein. 1994. Use of a reporter gene, xyIE, to examine transcriptional linkage in Neisseria gonorrhoeae. *Plasmid.* 32:356.
9. Sandlin R. C., **R. J. Danaher**, and D. C. Stein. 1994. Genetic basis of pyocin resistance in Neisseria gonorrhoeae. *J. Bacteriol.* 176:6869-6876.
10. **Danaher R. J.**, E. F. Petricoin III, D. C. Stein. 1994. Use of xyIE fusions to demonstrate that lsi-1, a Neisseria gonorrhoeae lipooligosaccharide biosynthetic gene, and lsi-3 are not transcriptionally linked. *J. Bacteriol.* 176:3428-3432.
11. **Danaher R. J.**, and D. C. Stein. 1994. Use of transcriptional fusions to study lsi-1 expression in Neisseria gonorrhoeae. Proceeding from the 8th international Pathogenic Neisseriae meeting.
12. Petricoin EF III, **R. J. Danaher**, and D. C. Stein. 1991. Analysis of the lsi region involved in lipooligosaccharide biosynthesis in Neisseria gonorrhoeae. *J. Bacteriol.* 173:7896-7902.
13. Stein D. C., **R. J. Danaher**, and T. M. Cook. 1991. Characterization of a gyrB mutation responsible for low-level nalidixic acid resistance in Neisseria gonorrhoeae. *Antimicrob. Agents Chemother.* 35:622-626.
14. **Danaher R. J.**, and D. C. Stein. 1990. Expression of cloned restriction and modification genes, hjaIRM from Hyphomonas jannaschiana in Escherichia coli. *Gene* 89:129-133.

Abstracts:

AD Savells-Arb, **RJ Danaher**, RJ Jacob, JA Loutsch, JM Hill, CS Miller. Submitted 2001. Histone Deacetylation Inhibition Induces HSV-1 Activation from Quiescence in PC12 Cells. (Univ of Kentucky, Lexington; Louisiana State University Health Sciences Center, New Orleans). (International Dental Research Meeting San Diego, CA).

SA Black, **RJ Danaher**, AD Savells-Arb, RJ Jacob, CS Miller. PACAP Reactivates HSV-1 from Quiescently infected Neurally Differentiated PC12 Cells. *J Dent Res* 2001

CS Miller, **RJ Danaher**, SA Black, RJ Jacob, JA Loutsch, JM Hill. Analysis of Quiescent Infection in PC12 Cells with EGFP HSV-1. *J Dent Res* 2001.

AD Savells-Arb, **RJ Danaher**, RJ Jacob, Miller CS. Herpes Simplex Virus-I Activation by a Naturally Occurring Adenylate Cyclase Activator. (*Am Soc Microbiol* May 2000).

RJ Danaher, AD Savells-Arb, RJ Jacob, CS Miller. Pituitary adenylate cyclase activating polypeptide (PACAP) activates HSV-1 from quiescently infected PC12 cells (International Society of Neurovirology September 2000).

RJ Danaher, AD Savells-Arb, RJ Jacob, CS Miller. Pituitary adenylate cyclase activating polypeptide (PACAP) activates HSV-1 from quiescently infected PC12 cells (25th International Herpesvirus Workshop, August 2000)

CS Freeman, AD Savells-Arb, **RJ Danaher**, RJ Jacob, Miller CS. Heat Stress Enhances HSV-1 α 4 Gene Activity in PC12 Cells. J Dent Res 79:480(#2695), 2000.

CS Miller, **RJ Danaher**, RJ Jacob. A Reversible HSV-2 Quiescent Infection in Neurally Differentiated PC12 Cells. J Dent Res 79:602 (#3665), 2000.

Vied, D. A., **R. J. Danaher**, R. J. Jacob, and C. S. Miller. Growth kinetics of HSV-1 in PC12 and Vero cells. J. Dent. Res. 78:274 (#1345), 1999.

Miller, C. S., **R. J. Danaher**, C. S. Freeman, and R. J. Jacob. Reactivation frequency of HSV-1 from persistently infected PC12 cells. J. Dent. Res. 78:115 (#76), 1999.

Hambly, S. W., **R. J. Danaher**, R. J. Jacob, and C. S. Miller. Stimulated release of HSV-1 from quiescently infected PC12 cells. J. Dent. Res. 78:273 (#1344), 1999.

Freeman, C. S., **R. J. Danaher**, R. J. Jacob, and C. S. Miller. Persistently infected PC12 cells rapidly produce virus following heat shock. J. Dent. Res. 78:274 (#1346), 1999.

Danaher, R. J., J. Xie, R. J. Jacob, and C. S. Miller. 1998. Effect of multiplicity of infection on HSV-1 reactivation *in vitro*. J. Dent. Res. 77B(SI):895 (#2107).

Miller, C. S., **R. J. Danaher**, and R. J. Jacob. 1998. Strain specificity for HSV-1 replication in PC12 cells. J. Dent. Res. 77(SI):299 (#1550).

Danaher, R. J., X. You, J. Xie, R. J. Jacob, C. S. Miller. 1998. Genotype specificity for HSV replication in PC12 cells. J. Dent. Res. 77(SI):183 (#623).

Danaher R. J., M. D. Chorak, R. J. Jacob, C. S. Miller. 1998. HSV-1 release from PC-12 cells induced by heat stress. J. Dent. Res. 77(SI):267 (#1292).

Danaher, R. J., S. W. Hambly, M. D. Chorak, R. J. Jacob, and C. S. Miller. 1998. Effect of hormones on HSV-1 release from nonpermissive PC-12 cells. J. Dent. Res. 77(SI):183 (#622).

Danaher, R. J., R. J. Jacob, and C. S. Miller. 1997. Asynchronous and spontaneous release of HSV-1 from PC-12 cells. J. Dent. Res. 76(SI):262 (#1987).

Danaher, R. J., D. G. Gover, and C. S. Miller. 1996. Nitric oxide activates transcription from HSV-1 IE110 and LATs promoters. J. Dent. Res. 75(SI):275 (#2062).

Miller C. S., J. J. Kenny, **R. J. Danaher**, R. J. Jacob, and R. C. Dickson. 1995. An NF1 regulatory element identified in the HSV-1 LAT promoter. J. Dent. Res. 74(SI):20 (#72).

Danaher, R. J., B. W. Romick, and C. S. Miller. 1995. Differential DNA-binding activity of quiescent and stimulated neuronal proteins to the HSV-1 LATs promoter. J. Dent. Res. 74(SI):21 (#73).

Danaher, R. J. and D. C. Stein. 1994. Use of a reporter gene, *xyIE*, to demonstrate that *lsi-1* a *Neisseria gonorrhoeae* lipooligosaccharide biosynthetic gene, and *lsi-3* are not transcriptionally linked. American Society for Microbiology Annual Meeting.

Danaher, R. J. and D. C. Stein. 1993. Use of a reporter gene, xyIE, to examine transcriptional linkage in Neisseria gonorrhoeae. 17th Annual Mid-Atlantic Extrachromosomal Elements and Molecular Genetics Meeting.

Danaher, R. J. and D. C. Stein. 1992. Use of transcriptional fusions to study lsi-1 expression in Neisseria gonorrhoeae. Eighth International Pathogenic Neisseria Conference.

Stein, D. C., **R. J. Danaher**, and E. F. Petricoin III. 1990. Suppression of O-side chain biosynthesis on gonococcal lipopolysaccharide by lsi-3. Seventh International Pathogenic Neisseria Conference.

Danaher, R. J. and D. C. Stein. 1988. Characterization of a restriction endonuclease and the cloning of its corresponding DNA methylase from the thermal vent bacterium Hyphomonas jannaschiana. First International Symposium on Marine Molecular Biology.

Danaher, R. J. and D. C. Stein. 1988. Characterization of a restriction enzyme isolated from a hydrothermal vent community bacterium, Hyphomonas jannaschiana. American Society for Microbiology Annual Meeting.

GRANTS AND CONTRACTS

Funded Research

2000-2001 **Danaher RJ** [Principal Investigator], University of Kentucky Medical Center Grant Award, "Stress Induction of HSV-1 Genes", Total Direct Costs: \$15,000.

2001-2006 Miller CS [Principal Investigator], **Danaher RJ** [Research Assistant Professor] "Opportunistic Oral HSV: Mechanisms of Reactivation" National Institutes of Health, RO1 Award, DE14142. Total Costs: \$1,345,886.

Pending Research

2001-2004 Kaetzel, CS [Principal Investigator], **Danaher RJ** [Research Assistant Professor], "Gene regulation in lytic vs latent HSV infection", National Cancer Institute, RFA: Activities to Promote Research Collaborations, Total Costs: \$212,373

Approved Research, Not Funded

1998-2003 Miller CS [Principal Investigator], **Danaher RJ** [Research Assistant Professor] "Modeling Oral Herpes virus Infection in vitro" National Institute of Dental Research, RO1 Award, \$1,549,376.

1998-2001 Miller CS [Principal Investigator], **Danaher RJ** [Research Associate] "Alternative Method for the Establishment of Herpes Virus Persistent Infection", American Fund for Alternatives to Animal Research, \$84,987.

1999-2004 Miller CS [Principal Investigator], **Danaher RJ** [Research Assistant Professor] "Modeling Oral Herpes Virus Reactivation in vitro" National Institutes of Health, RO1 Award, Total Direct Costs: \$1,079,274.

2001-2004 **Danaher RJ** [Principal Investigator], "Stress Gene Expression in Sensory Neurons", Whitehall Foundation, Inc, Total Direct Costs: \$150,000.

2001-2005 Miller CS [Principal Investigator], **Danaher RJ** [Research Assistant Professor] "Stress Response Elements in HSV Reactivation" National Institutes of Health, RO1 Award, Total Direct Costs: \$1,662,608; priority score 238

PROFESSIONAL REFERENCES:

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