

BIOGRAPHICAL SKETCH

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NAME Eaton, Kathryn A	POSITION TITLE Associate Professor		
eRA COMMONS USER NAME (credential, e.g., agency login) kateaton			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Amherst College	BA	1978	Biology
Tufts University, Boston, MA	DVM	1984	Veterinary Medicine
Ohio State University, Columbus, OH	PhD	1990	Veterinary Pathology

A. Positions and Honors

1979-1980 Research Assistant, Naval Blood Research Laboratory, Boston, MA
 1981-1983 Veterinary Assistant, Veterinary Emergency Treatment Service, Walpole, MA
 1984-1985 Veterinarian, New England Animal Medical Center, West Boylston, MA
 1985-1986 Veterinarian, Monroe Veterinary Associates, Rochester, NY
 1986-1988 Resident Trainee, Department of Veterinary Pathobiology, Ohio State University, Columbus, OH
 1988-1990 Graduate Student, Department of Veterinary Pathobiology, Ohio State University, Columbus, OH
 1990 Diplomate, American College of Veterinary Pathologists
 1990-1991 Postdoctoral Fellow, Department of Veterinary Pathobiology, Ohio State University, Columbus, OH
 1991-1996 Assistant Professor, Department of Veterinary Pathobiology, Ohio State University, Columbus, OH
 1996-2003 Associate Professor, Department of Veterinary Pathobiology, Ohio State University, Columbus, OH
 1998-2002 Member, NCCR CM-1 Study section, October, 1998-June, 2002
 2003-present Associate Professor, Unit for Laboratory Animal Medicine, University of Michigan Medical School, Ann Arbor, MI
 2003-present Associate Professor, Department of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor, MI
 2005-present Editorial review board, *Infection and Immunity*

B. Selected peer-reviewed publications (in chronological order). (selected from more than 60):

Eaton, K.A., Morgan, D.R. and Krakowka, S. (1989) *Campylobacter pylori* virulence factors in gnotobiotic piglets. *Infection and Immunity* 57:1119-1125.

Eaton, K.A., Morgan, D.R., Brooks, C.L., and Krakowka, S. (1991). Essential role of urease in the pathogenesis of gastritis induced by *Helicobacter pylori* in gnotobiotic piglets. *Infection and Immunity*. 59:2470-2475.

Eaton, K.A., Morgan, D.R., and Krakowka, S. (1992) Motility as a factor in the colonisation of gnotobiotic piglets by *Helicobacter pylori*. *Journal of Medical Microbiology*. 37:123-127

Eaton, K.A., Radin, M.J., Kramer, L, Wack, R., Sherding, R., Krakowka, S., and Morgan, D.R. (1993) Epizootic Gastritis in cheetahs associated with gastric spiral bacilli. *Veterinary Pathology*. 30:55-63.

Eaton, K.A., Dewhirst F.E.D., Radin, M. J., Fox, J.G., Paster, B. J., Krakowka, S., and Morgan, D.R. (1993) *Helicobacter acinonyx*, sp. nov., isolated from cheetahs with gastritis. *International Journal of Systematic Bacteriology*. 43:99-106.

Eaton, K.A. and Krakowka, S. (1994) The effect of gastric pH on urease-dependent colonization of gnotobiotic piglets by *Helicobacter pylori*. *Infection and Immunity*. 62:3604-3607.

Eaton, K.A., Radin, M.J., and Krakowka, S. (1995) An animal model of gastric ulcer due to bacterial gastritis in mice. *Veterinary Pathology*, 32:489-497

- Eaton, K.A.**, Catrenich, C.E., Makin, K.M., and Krakowka, S. (1995) Virulence of coccoid and bacillary forms of *Helicobacter pylori* in gnotobiotic piglets. *The Journal of Infectious Diseases* 171:459-462.
- Eaton, K.A.** and Krakowka, S. (1995) Avirulent, urease-deficient *Helicobacter pylori* colonizes gastric epithelial explants ex vivo, *Scandinavian Journal of Gastroenterology* 30:434-437.
- Krakowka, S., **Eaton, K.A.**, and Rings, D. M. (1995) Occurrence of gastric ulcers in gnotobiotic piglets colonized by *Helicobacter pylori*. *Infection and Immunity* 63:2352-2355.
- Krakowka, S. and **Eaton, K. A.** (1996) *Helicobacter pylori* infection in gnotobiotic piglets: A model of human gastric bacterial disease. in *Advances in swine in Biomedical Research*, Tumbleson and Schook, eds. Plenum Press, New York.
- Eaton, K. A.**, Dewhirst, F. E., Paster, B. J., Tzellas, N., Coleman, B. E., Paola, J. and Sherding, R. (1996) Prevalence and Varieties of *Helicobacter* Species in Random-Source and Pet Dogs: Animal and Public Health Implications. *Journal of Clinical Microbiology*. 34:3165-3170.
- Eaton, K. A.**, Suerbaum, S., Josenhans, C., and Krakowka, S. (1996) Colonization of Gnotobiotic Piglets by *Helicobacter pylori* Deficient in Two Flagellin Genes. *Infection and Immunity* 64:2445-2448
- Eaton, K.A.**, Cover, T.L., Tummuru, M.K.R., Blaser, M.J., Krakowka, S. (1997) The role of vacuolating cytotoxin in gastritis due to *Helicobacter pylori* in gnotobiotic piglets. *Infection and Immunity*, 65:3462-3464.
- Danon, S.J., Luria, B.J., Mankoski, R. E., **Eaton, K. A.** (1998) RFLP and RAPD analysis of in vivo genetic interactions between strains of *Helicobacter pylori*. *Helicobacter*. 3:254-259
- Danon, S.J and **Eaton, K.A.** (1998) The role of gastric helicobacter and N-methyl-N-nitro-N--nitrosoguanidine in carcinogenesis of mice. *Helicobacter* 3:260-268
- Eaton, K.A.**, Ringler, SS., Krakowka, S. (1998) Vaccination of gnotobiotic piglets against *Helicobacter pylori*. *J Infect Diseases* 178 (5)
- Eaton, K. A.**, Danon, S. J. Ringler, S. R (1999). Murine splenocytes induce severe gastritis and delayed-type hypersensitivity, and suppress bacterial colonization in *Helicobacter pylori* infected SCID mice. *Infection and Immunity*, 67: 4594-4602
- Mankoski, R.E., Hoepf, T, Krakowka, S, **Eaton, K.A.** (1999) FlaA mRNA transcription level correlates with *Helicobacter pylori* colonisation efficiency in gnotobiotic piglets. *Journal of Medical Microbiology*, 48:395-399
- Josenhans C, **Eaton KA**, Thevenot T, Suerbaum S. 2000. Switching of flagellar motility in *Helicobacter pylori* by reversible length variation of a short homopolymeric sequence repeat in *fliP*, a gene encoding a basal body protein. *Infection and Immunity*. 68:4598-4603.
- Eaton, K. A.**, Mefford, M., Thevenot, T. (2001) The role of T cell subsets and cytokines in the pathogenesis of *Helicobacter pylori* gastritis in mice. *Journal of Immunology*, 166:7456-7461.
- Peterson R, Danon S, **Eaton, K.A.** 2001. Comparison of Gastritis and Gastric Epithelial Proliferation in *Helicobacter heilmannii* Infected Nude and BALB/c Mice. *Veterinary Pathology*, 38:173-183
- Eaton, K.A.**, Kersulyte, D., Mefford, M., Danon, S. J., Krakowka, S., Berg, D. E. 2001. The role of *Helicobacter pylori* *cag*-region genes in colonization and gastritis in two animal models *Infection and Immunity*, 69: 2902-2908
- Eaton, K.A.**, Mefford, M. 2001. Cure of *Helicobacter pylori* and Resolution of Gastritis by Adoptive Transfer of Splenocytes in Mice. *Infection and Immunity* 69:1025-1031
- Joyce EA, Gilbert JV, **Eaton KA**, Plaut A, Wright A. 2001, Differential gene expression from two transcriptional units in the *cag* pathogenicity island of *Helicobacter pylori*. *Infection and Immunity* . 2001 69:4202-9.
- Eaton, K. A.**, Gilbert, J. V. Joyce, E. A., Wanken, A. E., Thevenot, T. Baker, P., Plaut, A., Wright, A. 2002. In Vivo Complementation of *ureB* Restores the Ability of *Helicobacter pylori* To Colonize.. *Infection and Immunity*, 70:771-778
- Wanken, AE, Conway, T, **Eaton, KA** (2003)The Entner-doudoroff Pathway Has Little Effect on *Helicobacter pylori* Colonization of Mice., *Infection and Immunity* 71 (5): 2920-2923.
- Peterson, RA, Hoepf, T, and **Eaton, KA** (2003) Adoptive transfer of splenocytes in SCID mice implicates CD4+ T cells in apoptosis and epithelial proliferation in *Helicobacter pylori* gastritis. *Comparative Medicine*, 54 (5): 498-509
- Eaton, KA**, Logan, SM, Baker, PE, Peterson, RA, Montiero, MA, Altman, E (2004) *Helicobacter pylori* with truncated lipopolysaccharide O-antigen fails to induce gastritis in recipient SCID mice. *Infection and Immunity* 72(7):3925-3931
- Zavros Y, **Eaton KA**, Kang W, Rathinavelu S, Katukuri V, Kao JY, Samuelson LC, Merchant JL. (2005)Chronic gastritis in the hypochlorhydric gastrin-deficient mouse progresses to adenocarcinoma. *Oncogene* 24(14):2354-66.
- Lopez-Diaz L, Hinkle KL, Jain RN, Zavros Y, Brunkan CS, Keeley T, **Eaton KA**, Merchant JL, Chew CS, Samuelson LC. (2006) Parietal Cell Hyperstimulation and Autoimmune Gastritis in Cholera Toxin

Transgenic Mice. American Journal of Physiology: Gastrointestinal and Liver Physiology. 290(5):G970-979.

Kao JY, Rathinavelu S, **Eaton KA**, Bai L, Zavros Y, Takami M, Pierzchala, A, Merchant J. L. (2006) Helicobacter pylori-secreted factors inhibit dendritic cell IL-12 secretion: a mechanism of ineffective host defense. American Journal of Physiology: Gastrointestinal and Liver Physiology. 291(1):G73-81

Eaton KA, Benson LH, Haeger J, Gray, BM (2006) Role of Transcription Factor T-bet Expression by CD4 Cells in Gastritis due to Helicobacter pylori in Mice. Infection and Immunity. 74(8): 4673-4684

Pratt JS, Satchel, KL, Wood HD, Eaton KA, Young VB (2006) Modulation of Host Immune Responses by the Cytotoxic

Distending Toxin of Helicobacter hepaticus . Infection and Immunity. 74(8): 4496-4506.

Eaton KA, Danon SJ, Krakowka S, Weisbrode SE. (2007) A reproducible scoring system for quantification of histologic lesions of inflammatory disease in mouse gastric epithelium. Comparative Medicine. 57 (1):57-65.

Eaton, KA, Friedman, DI, Francis GJ, Tyler JS, Young VB, Haeger J, Abu-Ali G, Whittam TS. (2008). The Pathogenesis of Renal Disease Due to Enterohemorrhagic Escherichia coli in Germ Free Mice. Infection and Immunity, 76: 3054-3063.

C. Research Support.

Ongoing support:

R01 AI43643 (Eaton - PI)

05/01/2004 – 04/30/2011

Host and bacterial factors in disease due to *Helicobacter pylori*.

NIH/NIAID

Goal is to investigate the mechanisms whereby *H. pylori* virulence factors interact with host immune responses to promote colonization and induce severe manifestations of disease.

Role: Principal Investigator

R01 (AI069383) NIAID/NIH

08/01/08 to 07/31/12

Title: Colonization and Pathogenicity Determinants of *C. jejuni*

Overall Goals: Identify mechanisms of colonization by the diarrheal human pathogen *Campylobacter jejuni*; develop screens for small molecule inhibitors of *C. jejuni*

Role: Co-Investigator

R01 AI043363 (Moblely – PI)

04/01/2008 – 03/31/2013

Molecular Pathogenesis of E. Coli UTI

Goal is to investigate selected gene products of uropathogenic *E. coli* as potential vaccine candidates.

Role: Co-Investigator

Gerber Foundation (Britton, PI)

06/01/2007 - 05/31/2009

Award # 61-6423-913

Identification of Probiotic *Lactobacillus Reuteri* Strains for the Treatment of Pediatric Diarrhea

Goal is to determine the role of *Lactobacillus reuteri* in preventing or treating disease due to EHEC in germ free mice.

Role: Co-Investigator

Completed Research Support

N01-AI-30058 prime, Subcontract 61-1438

07/01/2006 – 12/31/2008

Germ Free Services (Eaton, PI)

Subcontract for Germ Free work for Michigan State University

Goal is to characterize the pathogenesis of enterohemorrhagic *E. coli* in germ free mice.

University of Michigan Core Support

09/01/2005 – 08/31/2007

Development of a germ-free mouse core facility for infectious disease and immunology research

Goal is to establish a germ free mouse facility at the University of Michigan

Role: Principal Investigator