

Sheryl L. Gares, Ph.D.**Associate Professor of Biology****Augustana Campus, University of Alberta**

4901 – 46 Ave., Camrose, AB, Canada T4V 2R3

Phone: (780) 679-1685 Fax: (780) 679-1129

email: sheryl.gares@ualberta.ca

Education

Ph.D. (Immunology)	Dept. of Oncology, Faculty of Medicine, University of Alberta, Edmonton, AB	2000
M.Sc. (Microbiology)	Dept. of Microbiology, College of Medicine, University of Saskatchewan, Saskatoon, SK	1992
B.Sc. (High Honors) (Microbiology)	Dept. of Microbiology, College of Medicine, University of Saskatchewan, Saskatoon, SK	1987

Academic and Teaching Positions

Associate Professor of Biology Augustana Campus, University of Alberta	2014 – present
Assistant Professor of Biology Augustana Campus, University of Alberta	2008 – 2014
Sessional Lecturer in Biology Augustana Campus, University of Alberta	Fall 2007
Post-doctoral Fellow Dept. of Medicine, Faculty of Medicine & Dentistry, University of Alberta Supervisor: Dr. Klaus Gutfreund; Co-supervisor: Dr. D. Lorne Tyrrell	2004 - 2007
Post-doctoral Fellow Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta Supervisor: Dr. M. Suresh	2001 - 2003
Graduate Teaching Assistant Dept. of Immunology, Faculty of Medicine & Dentistry, University of Alberta	1995 – 1996
Undergraduate and Graduate Teaching Assistant Dept. of Microbiology, College of Medicine, University of Saskatchewan	1986 – 1990

Academic Awards and Prizes

Major Awards:

Canadian Association for the Study of the Liver Post-doctoral Fellowship	2005 - 2007
Alberta Cancer Board Graduate Studentship	1997 - 1998
Faculty of Medicine 75 th Anniversary Graduate Studentship	1996 - 1997
Alberta Heritage Foundation for Medical Research Graduate Studentship	1992 – 1996
Natural Sciences and Engineering Research Council Graduate Studentship	1988 – 1990

Minor Awards:

Meltzer Fund Fellowship Tuition Award; Dept. of Oncology	1998
Canadian Society for Immunology Travel Award	1996
Mary Louise Imrie Travel Award; University of Alberta	1995
Eric Kneen Memorial Award; American Society of Brewing Chemists	1994
Canadian Cancer Society (Saskatchewan Division) Summer Studentship	1986 & 1987
University of Saskatchewan Undergraduate Scholarship	1985 & 1986

Teaching Experience

Undergraduate Courses Prepared and Taught

- AUBIO 130; Cell Biology, Lecture and Lab/Tutorial Coordinator
- AUBIO 274; Microbiology, Lecture and Lab
- AUBIO 275; Microbiology of Eukaryotes, Lecture and Lab
- AUBIO 389; Molecular Biology of the Gene, Lecture
- AUBIO 371; Immunology, Lecture and Lab
- AUBIO 475; Pathogenic Mechanisms of Microbes, Lecture and Lab

Undergraduate Research

Supervision of Independent Study Courses:

- AUBIO 418; Directed Reading with Taylor Foreman. Interrupting the infectious cycle of human african trypanosomiasis caused by *Trypanosoma brucei rhodesiense* in Tanzania, Winter 2014.
- AUBIO 318; Directed Reading with Linnea Barisoff. Curcumin: a nutraceutical to spice up your diet while putting a blush in your cheek, Winter 2014.
- AUBIO 419; Directed Study with Hsin-yi (Cindy) Liu. Tracking T-helper cell differentiation using intracellular staining and flow cytometric analysis, Fall 2013.
- AUBIO 318; Directed Reading with Monique Jarrett. Is sunshine good medicine for Crohn's Disease: the effect of vitamin D on disease activity, Fall 2013.

- AUBIO 419; Directed Study with Kathleen Brager: The influence of vitamin A-deficiency on the production of cytokines in mouse spleens, Fall 2012.
- AUBIO 419; Directed Study with Allyson Cornelis: Retinoic acid decreases, but does not eliminate murine macrophage phagocytic activity or iNOS expression, Fall 2012.
Outstanding Independent Work Student Award for Fall Term, 2012.
- AUBIO 419; Directed Study with Kathleen Vasselin: A macrophage's internal struggle between inflammation and vitamin A, Fall 2012.
- AUBIO 318; Directed Reading with Kathleen Brager: A journey into the bowels of autoimmune disease: how nutrition affects the production of Th17 cells in the gut, Winter 2012.
- AUBIO 318; Directed Reading with Allyson Cornelis: The influence of retinoic acid on intrinsic abilities of macrophages, Fall 2011.
- AUBIO 318; Directed Reading with Kathleen Vasselin: Factors that influence macrophage secretion of IL12, Winter 2012.
- AUBIO 318, Directed Study with Afrin Biswas: Anti-malarial therapies for mosquitoes, Winter 2010

Supervision of Undergraduate Student Summer Research Projects

- Cindy Liu: Tracking T helper cell differentiation using intracellular staining and flow cytometric analysis, 2013
- Kathleen Brager: Developing a model system of vitamin A deficiency, 2012.
- Allyson Cornelis: Influence of retinoic acid on phagocytosis and iNOS activity in macrophages, 2012.
- Kathleen Vasselin: Factors that influence macrophage secretion of IL12, 2012.
- Sandra Gawad Gad: Do dietary supplements affect the development of immunity? 2011.
- Lucas Hudec: Development of a whole cell immunoassay to rapidly detect *Lactococcus lactis*, 2011.
- Charley Switzer: Do dietary supplements affect the development of immunity? 2011.

Research Experience and Interests

Associate Professor of Biology

2008 – present

Dept. of Science, Augustana Campus, University of Alberta

My research interests are focused on understanding how immune mechanisms are involved in various chronic diseases. Current projects explore the effects of nutrients like vitamin A on the development of innate and adaptive immune responses to bacterial challenge using ELISAs and flow cytometry to analyze cell cultures or tissues as the immune response develops.

Post-doctoral Fellow**2004 - 2007**

Dept. of Medicine, Faculty of Medicine & Dentistry, University of Alberta

Supervisor: Dr. Klaus Gutfreund; Co-supervisor: Dr. D. Lorne Tyrrell

Research Project: Exploring pathogenic mechanisms and immune responses in a duck model of chronic and acute duck hepatitis B virus infection.**Post-doctoral Fellow****2001 - 2003**

Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta

Supervisor: Dr. M. Suresh

Research project: Development of GM2 ganglioside-based therapeutics and vaccines to treat or protect from melanoma tumors in a murine model.**Ph.D. Student****1992 – 2000**

Dept. of Immunology/Oncology, Faculty of Medicine, University of Alberta.

Supervisor: Dr. Linda Pilarski

Thesis: Thymocyte motility is mediated by $\beta 1$ integrins and RHAMMResearch Project: Examined how RHAMM (CD168) and integrins on human thymocytes function to mediate motility. Project relied heavily on the use of computer-assisted time-lapse video microscopy, confocal microscopy and flow cytometry.**M.Sc. Student****1988 – 1991**

Dept. of Microbiology, College of Medicine, University of Saskatchewan.

Supervisor: Dr. Barry Ziola

Thesis: Detection and identification of *Pectinatus* spp. with monoclonal antibodies.Research project: Development of immunoassays for the rapid, sensitive detection of bacteria of importance in the brewing industry.**Undergraduate Research****1986 & 1987**

Dept. of Microbiology, College of Medicine, University of Saskatchewan.

Supervisor: Dr. Barry Ziola

Summer research assistant and B.Sc. Honours Research Project

Research projects: Development and comparison of immunoassay methods to detect low level antigens on cell surfaces of tumour cells and virus-infected cells.**Research Funding****Augustana Research Fund, Augustana Campus, University of Alberta****May - Aug. 2013**Research Project: Tracking T helper cell differentiation using intracellular staining and flow cytometric analysis

Student stipend and research costs for one undergraduate summer research assistant; \$10,500.00

Food and Health Innovation Initiative, Faculty ALES, University of Alberta 2012 – 2013

Research Project: Effect of vitamin A-deficiency on the immune function of gut-associated phagocytes and T cells in a mouse model of bacterial infection

Student stipend and research costs for 3 undergraduate summer research assistants; \$29,000.00

Food and Health Innovation Initiative, Faculty ALES, University of Alberta 2011 - 2012

Research Project: Effect of vitamin A-deficiency on the immune functions of macrophages and dendritic cells in a mouse model of infection

Student stipend for 1 undergraduate student and acquisition of equipment; \$23,850.00

Augustana Research Fund; Augustana Campus, University of Alberta May - Aug. 2011

Research Project 1: Do dietary supplements affect the development of immunity in a mouse model of infection?

Research Project 2: A whole cell immunoassay to rapidly detect *Lactococcus lactis*, a milk spoilage bacterium

Student stipend and research costs for 2 undergraduate summer research assistants; \$22,000.00

New Faculty Start-up Grant, Augustana Campus, University of Alberta 2008 –2011

Research Project: Exploring Techniques in Microbiology and Immunology

Acquisition of equipment, conference travel; \$10,000.00

University Service and Professional Development

-
- Member of Committee on Academic Skills Assessment, 2013 – present
 - Sabbatical Leave, July 1, 2014 – June 30, 2015
 - Panel member for an Augustana Teaching Seminar, “Round Table on the Liberal Arts and Sciences, Jan. 28, 2013
 - Member of Augustana Research Committee, 2012 – 2014
 - Regular participant in the Augustana Spring Teaching Workshop, 2008 – 2013.
 - Panel member for an Augustana Teaching Seminar, “Teaching Gender/Gendered Teaching”, Jan. 23, 2012
 - Participated in the Centre for Teaching and Learning (CTL) 5 day workshop “The Teaching and Learning Essentials, Aug. 2010.
 - Participated in Teaching Squares at Augustana, Fall 2009.
 - Attended a Council on Undergraduate Research (CUR) Institute, “Beginning a Research Program in the Natural Sciences at an Undergraduate Institution”, Nov. 20 – 22, 2009.
 - Invited panel member for a CTL “New Professor Orientation”, “What is the purpose of higher education?” and “How do you facilitate student engagement in the classroom?” Aug. 11, 2009.

- Engaged a CTL peer consultant to obtain student feedback on the structure of the Immunology course and my proposal to add a laboratory component to enhance the course, Winter 2009.
- Member of Search Committee for Assistant Professor of Biology, Augustana Campus, 2008 - '09.
- Attended the CTL “New Professor Orientation”, Aug. 25 – 27, 2008.
- Completed the post-doctoral fellows professional development training
- Coordinated the University of Alberta Immunet Journal Club series, 2007.
- Served on the Election Committee for the inaugural election of a University of Alberta PDF Association Executive Council, Spring 2007.
- Served as the Dept. of Oncology, University of Alberta graduate student’s president and organized the inaugural Oncology Graduate Student Journal Club series, 1998 – 1999.
- Member of the search committee for the Dean of Medicine, University of Alberta, 1993 – 1994.
- Member of the graduate student organizing committee that initiated the “Distinguished Immunologist” visiting speaker series, Dept. of Immunology, University of Alberta, 1992 – 1993.
- Served as the Dept. of Immunology representative to the graduate student’s association, University of Alberta, 1992 - 1993.

Memberships

- Alberta Introductory Biology Association
- Cybermentor
- Society for Teaching and Learning in Higher Education (STLHE)
- Canadian Society for Immunology, graduate student and post-doctoral member
- University of Alberta Academic Women’s Association

Publications

Articles in Undergraduate Research Journals:

Cornelis, Allyson (Mentor: **Sheryl L. Gares**). 2013. Retinoic acid decreases but does not eliminate murine macrophage phagocytic activity and iNOS expression. *Metamorphosis*. Spring 2013.

Articles in Peer-reviewed Science Journals and Proceedings:

Fischer, Karl P., **Sheryl L. Gares**, Dakun Wang, D. Lorne Tyrrell and Klaus S. Gutfreund. 2007. Identification and characterization of functional CD154 (CD40 ligand) in the Pekin duck. *Dev. Comp. Immunol.* 31: 61 - 71.

Gares, Sheryl L., Karl P. Fischer, Stephen Congly, Stacey Lacoste, William R. Addison, D. Lorne Tyrrell and Klaus S. Gutfreund. 2006. Immunotargeting with CD154 (CD40 ligand) enhances DNA vaccine responses in ducks. *Clin. Vaccine Immunol.* 13:958 - 965.

Das, Dipankar, **Sheryl L. Gares**, Les P. Nagata and Mavanur R. Suresh. 2004. Cloning and evaluation of the E1 subunit vaccine of Western Equine Encephalitis virus. *Antiviral Res.* 64:85 – 92.

Pilarski, Linda, Christopher Maxwell and **Sheryl L. Gares**. 2001. RHAMM (CD168, IHABP). *PROW* 2: 76 – 84

Pilarski, L. M., **S. L. Gares**, E. Pruski, D. Paine and J. Wisniak. Surface and intracellular RHAMM in/on stem cells, thymocytes, peripheral B and T cells and myeloma B cells. Proceedings of the 7th Human Leukocyte Differentiation Antigens Workshop, 2002. Editor: David Mason. pp. 24 - 29.

Gares, S. L. and L. M. Pilarski. 2000. Balancing thymocyte adhesion and motility: a functional linkage between β 1 integrins and the motility receptor RHAMM. *Dev. Immunol.* 7:209 - 225.

Gares, S. L. and L. M. Pilarski. 1999. Beta1-integrins control spontaneous adhesion and motility of human progenitor thymocytes and regulate differentiation-dependent expression of the receptor for hyaluronan-mediated motility. *Scand. J. Immunol.* 50: 626 – 634.

Ziola, Barry, **Sheryl L. Gares**, Brandene Lorrain, Lori Gee, W. M. Ingledew and Sun Y. Lee. 1999. Epitope mapping of monoclonal antibodies specific for the directly cross-linked *meso*-diaminopimelic acid peptidoglycan found in the anaerobic beer spoilage bacterium *Pectinatus cerevisiiphilus*. *Can. J. Microbiol.* 45: 779 - 785.

Whiting, Michael S., **Sheryl L. Gares**, W. M. Ingledew and Barry Ziola. 1999. Brewing spoilage lactobacilli detected using monoclonal antibodies to bacterial surface antigens. *Can. J. Microbiol.* 45: 51 - 58.

Gares, S. L., N. Giannakopoulos, D. MacNeil, R. J. Faull and L. M. Pilarski. 1998. During human thymic development, β 1 integrins regulate adhesion, motility and the outcome of RHAMM/hyaluronan engagement. *J. Leuk. Biol.* 64: 781 – 790.

***Gares, Sheryl L.**, M. Whiting, W. M. Ingledew and B. Ziola. 1993. Detection and identification of *Pectinatus cerevisiiphilus* using surface-reactive monoclonal antibodies in a membrane filter-based fluoroimmunoassay. *J. Am. Soc. Brew. Chem.* 51: 158 - 163.

* *Article selected as 'Best Article' published in the journal for 1993 and was awarded the Eric Kneen Memorial (monetary award).*

Poster Presentations:

Gao, Yanhua, A. Arantes, J. Li, Arun Kommadath, Tingting Ju, Shay Forget, **Sheryl L. Gares**, Graham Plastow, Paul Stothard, Daniel Barreda and Benjamin Willing. 2015. Amoxicillin in the neonatal period alters blood transcriptome prediction of Salmonella shedding in later life. *Cell Symposia: Human Immunity and the Microbiome in Health and Disease*, Montreal, PQ, Sept. 27 – 29

- Brager, Katie and **Sheryl L. Gares**. 2013. Now I've spleen everything! A study of the effects of a vitamin A-deficient diet on the production of T cell cytokines in mouse spleens. National Conference on Undergraduate Research (NCUR) Annual Meeting, **25B**
- Brager, Katie, Allyson Cornelis, Kathleen Vasselin and **Sheryl Gares**. 2012. Effect of dietary vitamin A-deficiency on immune cells in a mouse model of bacterial infection. Second Annual Student's Union Undergraduate Research Symposium, University of Alberta, **50**
- Switzer, C., S G Gad and **S. L. Gares**. 2011. Developing methods to investigate the effect of vitamin A on innate immune cells. First Annual Student's Union Undergraduate Research Symposium, University of Alberta, **52**
- Gares, S. L.**, D. L. Tyrrell and K. S. Gutfreund. 2007. Chronic DHBV infection in ducks correlates with expression of the Th2 cytokine IL10. University of Alberta Post-doctoral fellows Annual Research Day, **9** and University of Alberta Dept. of Medicine Research Day, **23**
- Gares, S. L.**, K. P. Fischer, D. L. Tyrrell and K. S. Gutfreund. 2006. Chronic DHBV infection in ducks correlates with expression of the Th2 cytokine IL10. International Meeting of the Molecular Biology of Hepatitis B Viruses, **P73**
- Gares, S. L.**, K. P. Fischer, D. L. Tyrrell and K. S. Gutfreund. 2006. Evaluating immune responses to a DNA vaccine in the duck hepatitis B model. University of Alberta Post-doctoral fellows Annual Research Day, **23** and University of Alberta Immunet Research Retreat
- Gutfreund, K., K. P. Fischer, **S. L. Gares**, S. Congly, S. Lacoste and D. L. J. Tyrrell. 2004. CD40-targeted immunotherapy in the duck hepatitis B virus (DHBV) model. MBL Hepatitis B Meeting
- *Das, D., ***S. L. Gares**, J. F. Nomellini, J. Smit and M. Suresh. 2003. Multimeric surface expression of the tumor-associated Muc-1 antigen on *Caulobacter* elicits immunity. Annual Meeting of the Canadian Bacterial Diseases Network (CBDN). **399**
- *Equivalent contributors
- Gares, Sheryl L.**, Nadia Giannakopoulos and Linda M. Pilarski. 1999. Cellular redistribution of the hyaluronan receptor RHAMM is regulated by HA. Annual Meeting of the American Association of Immunologists.
- Gares, Sheryl L.**, Mary Crainie and Linda M. Pilarski. 1999 Cellular Redistribution of the hyaluronan (HA) receptor RHAMM is regulated by HA binding. Thirteenth Spring Meeting of the Canadian Society for Immunology. **124**.
- Gares, Sheryl L.** and Linda M. Pilarski. 1997. Hyaluronan binding modulates expression of the hyaluronan binding motility receptor, RHAMM, on human thymocytes. Eleventh Spring Meeting of the Canadian Society for Immunology. **90**.
- Pilarski, Linda, Donna MacNeil and **Sheryl Gares**. 1997. Alpha5 beta1 integrin mediates developmentally regulated fibronectin-independent adhesion or motility by human thymocytes. Eleventh Spring Meeting of the Canadian Society for Immunology. **86**.

Gares, Sheryl L. Eva A. Turley and Linda M. Pilarski (Spon: H. Ostergaard) 1996. Hyaluronan binding to human thymocytes is enhanced by anti-RHAMM antibodies. Annual Meeting of the American Association of Immunologists New Orleans **A-149**.

Gares, Sheryl L., Eva A. Turley and Linda M. Pilarski. 1996. Hyaluronan binding to human thymocytes is enhanced by anti-RHAMM antibodies. Tenth Spring Meeting of the Canadian Society for Immunology. **6.2**.

Gares, Sheryl L., D. MacNeil, L. M. Pilarski and E. A. Turley. 1995. Functional relationship between $\beta 1$ integrins and RHAMM, a receptor for hyaluronan-mediated motility. The 9th International Congress of Immunology. **1546**.

Gares, Sheryl L., Donna MacNeil, Eva A. Turley and Linda M. Pilarski. 1995. Functional relationship between $\beta 1$ integrins and RHAMM, a receptor for hyaluronan-mediated motility. Ninth Spring Meeting of the Canadian Society for Immunology. **2-32**.

Havele, Calliopi, **Sheryl L. Gares** and Peter A. Bretscher. 1993. Conditions for the upregulation of IL2 synthesis by cyclosporin A. Seventh Spring Meeting for the Canadian Society for Immunology, **12-15**.

Havele, Calliopi and **Sheryl L. Gares**. 1993. Qualitative and quantitative variables define the conditions for the primary induction of antigen-specific CD4⁺ T cell subsets producing IL2 or IL4. Seventh Spring Meeting for the Canadian Society for Immunology. **12-16**.

Gares, Sheryl L., M. Whiting, W. M. Ingledew and B. Ziola. 1992. Detection and identification of *Pectinatus cerevisiiphilus* using surface-reactive monoclonal antibodies in a membrane filter-based fluoroimmunoassay. 58th Annual Meeting American Society of Brewing Chemists, Sept. 9 – 12.

Havele, C. and **Sheryl L. Gares**. 1991. A novel regulatory function of CD8⁺ T Cells: Inhibition of the primary induction by antigen of IL4 producing T Cells. Fifth Spring Meeting for the Canadian Society for Immunology, **11-6**.

Ziola, B., M. Whiting, **S. Gares** and W. M. Ingledew. 1989. Enzyme immunoassay detection of bacterial contaminants in breweries. Industrial Microbiology Annual Meeting. Aug. 13 - 18.

Archer, Tim, **Sheryl L. Gares** and B. Ziola. 1988. Comparison of three immunoassay methods for detection of low level, low avidity antibodies to surface antigens on virus-infected cells and on tumor Cells. Canadian Society of Microbiology, **37**.

Oral Presentations (presenter indicated by *):

*Cornelis, Allyson and **Sheryl L. Gares**. 2013. Vitamins, macrophages and enzymes, oh my! The influence of vitamin A on macrophage functions. National Conference on Undergraduate Research (NCUR) Annual Meeting, La Crosse, WI, April 2013

***Gares, Sheryl L.** and Linda Pilarski. 1999. Cellular redistribution of the hyaluronan receptor RHAMM is regulated by HA. Annual Meeting of the American Association of Immunologists, Washington, DC, April 1999

***Gares, Sheryl L.** and Linda Pilarski. 1996. Hyaluronan binding to human thymocytes is enhanced by anti-RHAMM antibodies. Canadian Society for Immunology, Montreal, PQ, March 1996

Faculty Colloquia:

Sheryl L. Gares. 2008. Food, Microbes and the Food Industry. Augustana Campus Annual Theme Symposium, Feb. 28, 2008.