

Program Director/Principal Investigator (Last, First, Middle):

Mazer, Bruce D.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

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NAME Mazer, Bruce David	POSITION TITLE Associate Professor of Pediatrics, Division Head, Allergy and Immunology		
eRA COMMONS USER NAME			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Columbia University, New York, NY	BA	1980	Biology
Jewish Theological Seminary of America, NY, NY	BA	1980	Judaic Studies
McGill University, Montreal Canada	MDCM	1984	Medicine
Montreal Children's Hospital, Montreal, Canada	Residency	1984-87	Pediatrics
National Jewish Health Center, Denver CO	Fellowship	1987-91	Allergy/Immunology

A. Positions and Honors.

Positions and Employment

1989-1991 Attending Physician, Ambulatory Pediatrics. The Children's Hospital, Denver, Colorado
Lutheran Medical Center, Denver, Colorado

1990-1991 Faculty Lecturer and Attending Physician National Jewish Health Center, Denver CO

1991-1996 Assistant Professor of Pediatrics, McGill University Faculty of Medicine

1991-2000 Attending Physician, Division of Allergy and Immunology Montreal Children's Hospital

1991-present McGill University/Montreal Children's Hospital Research Institute Member

1995-present Member, Department of Experimental Medicine, McGill University

1995-present Associate member, Department of Experimental Surgery, McGill University

1997-2000 McGill University Faculty of Medicine Associate Professor of Pediatrics

1997-present Meakins Christie Research Institute Research Director (Principle investigator)

1997-2004 Director, Clinical Immunology Laboratory, Montreal Children's Hospital

2000-2004 McGill University Faculty of Medicine Associate Professor of Pediatrics GFT (U)

2000-present Division Head, Allergy and Immunology, Montreal Children's Hospital

2004-present McGill University Faculty of Medicine Associate Professor with Tenure

2004-present William Dawson Scholar, McGill University Faculty of Medicine

2008-present Chair McGill University Health Center Research Institute Res. Council

Other Experience and Professional Memberships

2007-present Canadian Institute for Health Research Immunology and Transplantation Grant Cmt

2001-2008 Chair Canadian Allergy, Asthma and Immunology Foundation Operating Grant Cmt

2009 Joel Visiting Professor of Pharmacology Hebrew University Jerusalem

2008 Visiting Professor, Hebrew University Department of Pharmacology

2009 Editorial Board, Clinical and Experimental Allergy

2006-present Reviewer Editorial Board, J. Allergy Clin Immunology

2004-8 Reviewer Children's Hospital of Eastern Ontario RI, Alberta Heritage Foundation

2002-2006 Immunology Section Head and Board Member Canadian Society Allergy and Immunol

Honors and Awards

1988- 1991 Research Fellowship: Medical Research Council of Canada
1993-1997 Fonds de Recherche en Santé du Quebec Chercheur Boursier Clinicien Junior 1
1998-2002 Fonds de Recherche en Santé du Quebec Chercheur Boursier Clinicien Junior 2
2002- 2006 Fonds de Recherche en Santé du Quebec Chercheur Boursier Clinicien Senior
2006-2011 Fonds de Recherche en Santé du Quebec Chercheur Nationale
2004- Present William Dawson Scholar, McGill University Faculty of Medicine.

Prizes

1991 Award for outstanding research, Fellow-in-Training, American Academy of Allergy and Immunology,
2004 David McCourtie Lectureship Canadian Society for Allergy and Clinical Immunology
2006 Aldo Award of Excellence for Pediatric Research Montreal Children's Hospital Foundation

B. Selected peer-reviewed publications (in chronological order). (Publications selected from 81 peer-reviewed publications)

- 1) **Mazer, BD** and Gelfand E.W.. An open label study of intravenous immunoglobulin in severe childhood asthma, *Journal of Allergy and Clinical Immunology*, 87:526-530 1991.
- 2) **Mazer, B.** Clay, K. Renz H Gelfand E.W.. Platelet activating-factor enhances Ig production in B-lymphoblastoid cell lines. *Journal of Immunology*, 145: 2602-2607, 1990.
- 3) Toledano B, Noya F, Bastien Y, **Mazer BD**. Platelet activating-factor abrogates apoptosis induced by crosslinking of the surface IgM receptor in a human B lymphoblastoid cell line. *J. Immunol.*, 1997, 158:3705-15.
- 4) McCusker C*, Chicoine M, Hamid Q, **Mazer BD**. Site-Specific Sensitization in a Murine Model of Allergic Rhinitis: Role of the upper airway in lower airways disease. *J Allergy Clin Immunol.* 2002 Dec;110 (6):891-8.
- 5) Ducharme FM, Chabot G, Polychronakos C, Glorieux F, **Mazer B**. Safety Profile of Frequent short courses of oral glucocorticoids in acute pediatric asthma: Impact on bone metabolism, bone density and adrenal function. *Pediatrics*, 2003 Feb;111: 376-83.
- 6) Hajoui O, Janani R., Joubert P., Tulic ME*, Ronis T*, Hamid Q, Zheng H, **Mazer B**. IL-13 production by human B cells: Regulation and role in IgE synthesis. *J All Clin Immunol*;114(3):657-63, 2004
- 7) Al-Tamemi, S, **Mazer, BD**; Mitchell, D; Duncan, AMV; McCusker, CT; Jabado, N MD, PhD. Complete DiGeorge Syndrome in the absence of neonatal hypocalcemia and velofacial and cardiac defects. *E-Pub Pediatrics*, 2005, 16:e457-60
- 8) Halickman I, Bastien Y, Zhuang, Mazer MB, Toledano BJ, **Mazer BD**. Platelet Activating-Factor Antagonists Decrease Follicular Dendritic Cells Stimulation of Human B Lymphocytes. *Allergy, Asthma and Clinical Immunology*, 2005, 1, 49-57.
- 9) **Mazer BD**, Al-Tamemi S, Yu JW, Hamid Q. Immune supplementation and immune modulation with Intravenous immunoglobulin. *J Allerg Clin Immunol*, 2005; 116: 941-4.
- 10) Stern L, Francouer, MJ, Primeau, MN, Sommerville, WS, Fombonne E, **Mazer BD**. Immune function in autistic children. *Ann Allergy, Asthma Immunology* 2005, 95: 558-65.
- 11) Fiset PO, Tulic M, Skrablin P, Grover S, Letuve, S, **Mazer BD**, Hamid, Q. Signal transducer and activator of transcription 6 down-regulates toll-like receptor-4 expression of a monocytic cell line. *Clin Exp Allergy* 2006, 36:158-65
- 12) Tewfik TL, **Mazer BD** The links between allergy and otitis media with effusion. *Curr Opin Otolaryngol Head Neck Surg.* 2006, 14(3):187-90.
- 13) Orange JS, Hossny E, Weiler CR, Ballou M, Berger M, Bonilla FA, Buckley R, Chinen J, El-Gamal Y, **Mazer BD**, Nelson RP, Kumar DD, Secord E, Sorenson RU, Wasserman RL, Cunningham-Rundles C. Use of intravenous immunoglobulin in human disease: a review of evidence by members of the Primary Immunodeficiency Committee of the American Academy of Allergy, Asthma and Immunology. *J Allergy Clin Immunol.* 2006;117: S525-53
- 14) Trudelle A, El-Bassam S, Pissoneault S, **Mazer BD**, Laberge S. Interleukin-16 Inhibits Immunoglobulin E Production by B Lymphocytes. *Int Arch Allergy Immunol.* 2007 143(2):109-118

- 15) Stankova J, Carret A-S, Moore D, McCusker C, Mitchell D, Davis GM, **Mazer BD**, Jabado N. Long-term therapy with aerosolized ribavirin for parainfluenza 3 virus respiratory tract infection in an infant with severe combined immunodeficiency. 2007, *Pediatric Transplantation* 11, 209-213.
- 16) Yu, JW, Borkowski A, Danzig L, Reiter S, Kavan P, **Mazer BD**. The Immune Response to Conjugated Meningococcal C Vaccine in Pediatric Oncology Patients. *Pediatric Hematology and Oncology*, 2007 Dec;49(7):918-23
- 17) Hajoui, O, Zheng H, Guay J, Letuve S., Fawaz L, **Mazer BD**. Regulation of IL-13R α 1 expression and signaling on human B-lymphocyte subsets. *J Allergy Clin Immunol*. 2007 Dec;120(6):1425-32
- 18) Kramer MS, Matush L, Vanilovich N, Platt R, Bogdanovich N, Sevkovskaya Z, Dzikovich I, Shishko G, **Mazer B**. Effect of prolonged and exclusive breast feeding on risk of allergy and asthma: cluster randomized trial. *BMJ* 2007 October;335: 815-820.
- 19) Fawaz, L, Hassan E, Soussie-Gounni A, Hamid, Q, **Mazer BD**. Expression of IL-9R α on human germinal center B cells modulates IgE secretion, 2007, *J Allergy Clin Immunol* 120:1208-1215. (Editors Choice Article)
- 20) Lejtenyi DL, **Mazer BD**. Consistency of protective antibody levels across lots of intravenous immunoglobulin preparations. *J Allergy Clin Immunol*. 2008 Jan; 121(1):254-5.
- 21) D'Antoni ML, Torregiani C, Ferraro P, Michoud MC, **Mazer BD**, Martin JG, Ludwig MS. Effects of decorin and biglycan on human airway smooth muscle cell proliferation and apoptosis. *Am J Physiol Lung Cell Mol Physiol*. 2008 294:764-771
- 22) Salehi, F, Zeyed J, Audusseau S, Muller C, Truchon G, Plammandon, P, L'Esperence G, Chevalier G, **Mazer BD**. Immunological responses in C3H/HeJ mice following nose-only inhalation exposure to different sizes of Beryllium metal particles. *J Appl Toxicol*. 2009; 29(1):61-8.
- 23) Kramer MS, Matush L, Bogdanovich, N, Dahhou, M, Platt RW, **Mazer BD**. The low prevalence of allergic disease in Eastern Europe: Are risk factors consistent with the hygiene hypothesis? *Clin Exp Allergy* 2009, 39:708-16
- 24) Gehr R, Parent S, DaSilva I, **Mazer BD**. Concentrations of Endotoxins in Waters Around the Island of Montreal, and Treatment Options. *Water Quality Research Journal of Canada*. 2008, 43, 291-303.
- 25) **Mazer BD**. Specific Oral Tolerance Induction increased tolerance to milk in children with severe cow's milk allergy. *Evidenced Based Medicine*. 2009, 14: 50.
- 26) Nissim A, Eliashar R, Nelson G, **Mazer BD**, Levi-Shaffer F. Efficient purification of eosinophils from human tissues, a comparative study. *J. Immunol. Methods*, 2009, 15;343(2):91-6.
- 27) McCusker CT, Hotte S, LeDeist F., Hirschfeld AF, Mitchell D, Nguyen VH, Gagnon R, **Mazer B**, Turvey SE, Jabado N. Relative CD4 lymphopenia and a skewed memory phenotype are the main immunologic abnormalities in a child with Omenn Syndrome due to homozygous RAG1-C2633T hypomorphic mutation. *Clinical Immunology* 2009 131(3):447-55
- 28) d'Hennezel E, Ben-Shoshan M, Ochs HD, Torgerson TR, Russell LJ, Lejtenyi C, Noya FJ, Jabado N, **Mazer BD**, Piccirillo CA. FOXP3 Forkhead domain mutation and regulatory T-cells in the IPEX syndrome. *N Engl J Med*. 2009 Oct 22; 361:1710-3
- 29) Kramer MS, Matush L, Bogdanovich N, Aboud F, **Mazer B**, Fombonne E, Collet JP, Hodnett E, Mironova E, Igumnov S, Chalmers B, Dahhou M, Platt RW. Health and Development Outcomes in 6.5 year old Children breastfed exclusively for 3 or 6 months. *Am J Clin Nutr*. 2009 Oct; 90:1070-4.
- 30) Shehata N, Hume H, Palda V, Anderson D, MSc, Bowen T, Warrington R, **Mazer BD**, Haddad E, Issekutz T, Schellenberg R, Easton D. Immunoglobulin for Patients with Primary Immune Deficiency: An Evidence Based Practice Guideline *Transfusion Medicine* 2010, 24; S28-50
- 31) Drolet JP, Frangie H, Guay J, Hajoui O, Hamid Q, **Mazer BD**. B-Lymphocytes in Inflammatory Airway Diseases. In press, *Clin Expt Allergy*, 2010.
- 32) Muller C, Audusseau S, Salehi F, Truchon G, Chevalier G, **Mazer B**, Kennedy G, Zayed J. Beryllium Contamination and Exposure Monitoring in an Inhalation Laboratory Setting. *Toxicology and Industrial Health*, 2010. Epub Jan 2010.
- 33) Muller C, **Mazer BD**, Salehi F, Audusseau S, Chevalier G, Truchon G, Lariviere P, Paquette V, Lambert J, Zayed J. Urinary levels, tissue concentrations and lung inflammation after nose-only exposure to three different chemical forms of beryllium. In press, *J Applied Toxicology*, 2010

C. Research Support

Pending Research Support

Talecris Talent program: Modulation of T-reg by IVIG 2010-2012, \$140,000

Ongoing Research Support

Canadian Allergy, Asthma and Immunology Foundation (Mazer PI) 2009-2010

T-regulatory function in children with food allergies

This study will examine a cohort of children with and without multiple food allergies to define functional T-regulatory subsets Role:PI

ALLERGEN –NCE Mazer and Hamid 2008-2010

Intracellular IL-13 in TLR-4+ T-cells as a marker of asthma severity

This study will follow a cohort of children with various degrees of asthma severity to determine if following IL-13 in TLR-4+ cells can predict asthma severity Role: Co-PI

Canadian Blood Services-Hema Quebec Partnership Fund Mazer PI 2007-2009

The action of Intravenous Immunoglobulin on regulatory T cells and Suppressor of cytokine signaling proteins in a murine model of asthma

This project uses an animal model of asthma to determine effects of the immunoregulatory drug intravenous immune globulin in induction of regulatory proteins such as FOXP3 and SOCS. Role: PI

Completed Research Support

Canadian Allergy Asthma and Immunology Foundation 2007-2008

Fc epsilon receptor expression on Human Bronchial Epithelium

This study was a pilot project to examine Fc epsilon R expression on cultured human bronchial epithelium Role PI

Canadian Institute for Health Research Mazer PI 2005-2008

Do IL-13+ B lymphocytes contribute to allergic airways disease?

We investigated the regulation of IL-13 and IL-13R in human B-lymphocytes in allergic airway tissues.

Role: Principal investigator

ALLERGEN-National Center of Excellence Hamid PI 2005-2007

Modulation of Toll-like receptor 4 in allergy

This project surveyed over 350 children to determine their profile of TLR-4 receptor expression as it related to allergic diseases and asthma Role: Co-principal investigator

Bayer Canadian Blood Services-Hema Quebec Partnership Fund Mazer PI 2005-2007

Intravenous Immunoglobulin modulates dendritic cell function and maturation in a murine model of asthma

This project employed an animal model of asthma to determine effects of the immunoregulatory drug intravenous immune globulin on dendritic cell function in pulmonary inflammation. Role: PI

Institut Robert Sauvé pour la recherche en santé et sécurité des travailleurs J Zayed PI 2004-2007

Development of an animal model of chronic beryllium disease

This project tested, for the first time, a murine model of long term beryllium inhalation to model chronic Beryllium disease. Role: Co-Investigator:

Canadian Institutes for Health Research MS Kramer PI 2002-2005

Breastfeeding duration and exclusivity: Impact on child health and development

This study continued a large cohort clinical trial on the impact of exclusive breast feeding on various pediatric developmental issues, including allergic disease which was my subproject.

Role: Co-investigator