

CURRICULUM VITAE

Basic information:

Ibrahim Adam

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Dr. Lori West Research Group

6-021 Li Ka Shing Centre for Health Innovation

University of Alberta, Canada

- Citizenship: Canadian
- Spoken languages: Arabic, English, French, German

Education and training:

- September 2020 - Present: **Postdoctoral Fellow**, University of Alberta (**Dr. Lori West laboratory**)
- June 2020: **PhD in Immunology**, Dept. of Medical Microbiology & Immunology, University of Alberta, Canada
- July 2012: **MSc in Genetics and Molecular Biology**, University of Khartoum, Sudan
- 2005 - 2010: Worked as **Medical Lab Technologist** in various hospitals in Sudan
- December 2005: **BSc honour, Medical Laboratory Science**, University of Khartoum, Sudan

Theses and dissertations:

- PhD thesis (2020): *ABO Antibody Production in Mice*, Dept. of Medical Microbiology and Immunology, University of Alberta, Edmonton, Canada
- MSc thesis (2012): *Detection of Hepatitis D Virus Among Hemodialysis Patients*, University of Khartoum, Sudan
- BSc thesis (2005): *Seroprevalence of Hepatitis E Virus Among Blood Donors*, University of Khartoum, Sudan

Teaching Experience:

- Teaching Assistant: Infection, Immunity and Inflammation, University of Alberta
- Teaching Assistant: Medical Microbiology for Health Care Professionals, University of Alberta
- Level One Graduate Teaching & Learning Program, University of Alberta, 2016
- Level Two Graduate Teaching & Learning Program, University of Alberta, 2022
- 2008 – 2009: Teaching Assistant, Medical Laboratory Science, University of Khartoum, Sudan

Work Experience:

- March 2009 – January 2010: Medical Lab Technologist (General), Fedail Medical Center, Sudan
- September 2008 – November 2008: Trainee at the National Health Laboratory, Sudan
- February 2007: Advance training in clinical laboratory with *Medecins Sans Frontieres* in Nairobi, Kenya
- May 2006-August 2008: Medical Lab Technologist (General), *Medecins Sans Frontieres*-Swiss, Sudan
- January 2006- May 2006: Medical Lab Technologist (General), Al Mawada Hospital, Sudan

Skills and Experiences:

- Molecular Biology techniques, including DNA and RNA extraction, RT-PCR and Agarose electrophoresis
- Flow cytometry, ELISA, ELISpot, cell culture, IHC, IFA, Hemagglutination, Microarray and Luminex.
- Mouse techniques, including handling, *i.p* and *i.v.* injection, blood collection, tissue processing, etc
- Phlebotomy techniques, including human venous blood, blood unit collection and fine needle aspiration.
- Conducting routine and advance diagnostic laboratory tests and sample analyses, such as chemical analyses of blood, urine, and cerebrospinal and other body fluids, examining blood cells for anemia and leukemia.
- Performing blood group, cross matching, and unit collections for blood transfusion purposes

- Preparing tissues for staining and microscopic examinations (gram stain, blood film, wet mount, etc), performing serology for infectious disease, participating in surveillance and epidemiological studies (eg: HIV, HBV, HCV, measles, meningitis, tuberculosis, etc) and maintaining lab supply and cold chain for vaccines (eg: measles, etc)
- Setting up medical laboratory equipment, calibrating and maintaining them. Establishing SOPs for the analysis of specimens and for lab experiments and supervising/training of medical lab technical staff and students.
- Cold chain and management, vaccination program, such as vaccination of staff or to outbreak (eg: measles)
- Laboratory supply and Pharmacy drug management, laboratory staff training and supervision

Professional Memberships:

- Member, The Sudanese Union Medical Laboratory Scientists and Sudanese Allied Health Professionals
- Member, Canadian Society of Transplantation
- Member, American Society of Transplantation
- Member, The Transplantation Society
- Trainee, Canadian Donation and Transplantation Research Program

Awards:

- 2022: Pediatric Trainee Best Abstract Award, Canadian Society of Transplantation
- 2022: The International Transplantation Science Mentee-Mentor Travel Awards, Buenos Aires, Argentina.
- 2019: Mentor-Mentee Award, International Transplantation Science Symposium (AST + TTS + ESOT)
- 2019: Travel Award, American Society of Transplantation Fellows Symposium
- 2019: Award, Mary-Louise Imrie Graduate Student Award, University of Alberta
- 2018: Mentor-Mentee Award, The Transplantation Society
- 2018: Young Investigator Award, The American Transplant Congress Meeting
- 2018: Travel Award, The International Society for Heart & Lung Transplantation 38th Annual Meeting
- 2018: Early Career Scientist Candidate, The International Society for Heart & Lung Transplantation
- 2017: Award, Green and Gold Student Leadership and Professional Development, University of Alberta
- 2016: Pediatric Trainee Best Abstract Award, Canadian Society of Transplantation
- 2016: Travel Award, International Pediatric Transplant Association (IPTA) Fellows Meeting
- 2016: Travel Award, The International Society for Heart & Lung Transplantation 36th Annual Meeting

Conference presentations:

- 2022: Oral Pres: Canadian Donation & Transplantation Research Program 10th Annual Scientific Meeting, BC
- 2022: Oral Pres: International Symposium Sex & Gender in Transplantation, Hannover, Germany
- 2022: Oral pres: Banff-Canadian Society of Transplantation joint meeting, Banff, AB
- 2022: Oral pres: The International Transplantation Science meeting 2022, Buenos Aires, Argentina
- 2022: Oral pres (virtual): Alberta Transplant Institute Research Day, Edmonton, AB
- 2022: Oral Pres: 2022 American Transplant Congress, Boston, USA
- 2020: Oral Pres: Canadian Donation & Transplantation Research Program 7th Annual Scientific Meeting (virtual)
- 2020: Oral Presentation: The Transplant Society, Seoul, South Korea (virtual)
- 2020: Oral-Poster Presentation: 2020 American Transplant Congress, Philadelphia, PA (virtual)
- 2020: Oral + Poster Presentation: The International Transplantation Science Meeting, Clearwater, FL
- 2020: Oral Presentation: The International Society for Heart & Lung Transplantation, Montreal
- 2019: Poster presentation: Congress of the International Xenotransplantation Association, Germany
- 2019: Poster presentation: Canadian Transplant Summit, Banff, AB
- 2019: Poster presentation: 2019 American Transplant Congress, Boston, USA

- 2019: Poster presentation: Canadian Glycomics Symposium, Banff, AB
- 2018: Poster presentation: Canadian Transplant Summit, Ottawa, ON
- 2018: Oral Presentation: The Transplant Society 2018, Madrid, Spain
- 2018: Oral Presentation: The American Transplant Congress, Seattle, WA
- 2018: Oral Presentation: The International Society for Heart & Lung Transplantation, Nice, France
- 2017: Oral Presentation: Canadian Society of Transplantation, Halifax, NS
- 2017: Oral presentation: The Congress of the European Society for Organ Transplantation, Barcelona, Spain
- 2017: Oral presentation: The international xenotransplantation Association, Baltimore, MD
- 2017: Poster: Alberta Transplant Institute Research Day, Edmonton, AB
- 2017: Poster presentation: Transplantation Science Symposium, Victoria, BC
- 2017: Poster presentation: Pediatrics Research Day, Edmonton, AB
- 2017: Poster presentation: Canadian Glycomics Symposium, Banff, AB
- 2017: Poster presentation: American Transplant Congress, Chicago, IL
- 2017: Oral Presentation: The International Society for Heart & Lung Transplantation, San Diego, CA
- 2016: Oral presentation: Canadian Society of Transplantation, Quebec City, QC
- 2016: Oral presentation: Alberta Diabetes Institute Research Day, Edmonton, AB
- 2016: Oral presentation: The 26th International Congress of the Transplantation Society, Hong Kong
- 2016: Poster presentation: Cardiac Sciences Research Day, Edmonton, AB
- 2016: Poster presentation: ImmuNet Research Day, Edmonton, AB
- 2016: Poster presentation: Pediatrics Research Day, Edmonton, AB
- 2016: Poster presentation: Canadian Glycomics Symposium, Banff, AB
- 2016: Oral Presentation: The International Society for Heart & Lung Transplantation, Washington, DC
- 2016: Oral Presentation: International Pediatric Transplant Association Fellows Meeting - New York, NY
- 2016: Poster presentation: American Society of Transplantation's Cutting Edge of Transplantation. Phoenix, AZ

Publications and Manuscripts in Preparations:

Adam I, Motyka B, Tao K, et al. Sex, T cells, and the microbiome in natural ABO antibody production in mice. **Transplantation**. 2023;XX:XXX–XXX. doi: 10.1097/TP.0000000000004658

Commentary: Emmanuel Z, ABO Antibody Development, a New Look at a Very Old Question. **Transplantation**. 2023; DOI: 10.1097/TP.0000000000004659

Adam I, Motyka B, Tao K, West LJ: Induction of anti-ABO-A antibody production in mice is dependent on foreign protein and CD22 inhibitory molecule. **In preparation**

Adam I, Motyka B, Tao K, West LJ: ABO self-tolerance in a mouse model: evidence of tolerance at B cell but not T cell level. **In preparation**

Abstracts:

I. Adam, B. Motyka, K. Tao, P. Cowan, L. West. The Role of Role of Sex and T Cells in Natural vs Induced ABO Antibody Production in Mice. **Transplantation** DOI:10.1097/01.tp.0000888052.48471.ee

B. Anjum, **I. Adam**, J. Fersovich, M. Sulzer, J. Pearcey, K. Tao, B. Motyka, L. West. FEMALE COMPLEXITY: HIGH 'NATURAL' ABO ANTI-A ANTIBODIES AND IGG CLASS SWITCH IN FEMALE VS MALE MICE. **Transplantation** DOI:10.1097/01.tp.0000698900.24420.a0

I. Adam, B. Motyka, P. Cowan, L. West . ABO SELF-TOLERANCE IN A MOUSE MODEL: EVIDENCE OF TOLERANCE AT B CELL BUT NOT T CELL LEVEL. **Transplantation** DOI:10.1097/01.tp.0000698488.52969.c9

- I. Adam**, B. Motyka, L. West. Sex and CD4 T Cells, but Not Bacterial Flora, Play Important Roles in Natural ABO Antibody Production in Mice. *The Journal of heart and lung transplantation*, 2020 DOI:10.1016/j.healun.2020.01.029
- B. Anjum, **I. Adam**, J. Fersovich, M. Sulzer, J. Pearcey, K. Tao, B. Motyka, L. West. High-Levels of 'Natural' ABO Antibodies are Produced in Female vs. Male Mice. *The Journal of heart and lung transplantation*, 2020 DOI:10.1016/j.healun.2020.01.024
- J. Fersovich, B. Motyka, **I. Adam**, J. Pearcey, K. Tao, C. Cairo, P. Cowan, L. West. ABO Tolerance Following Treatment of Infant Mice with A-Expressing MHC-Identical Erythrocytes. *The Journal of Heart and Lung Transplantation*, 2019 DOI:10.1016/J.HEALUN.2019.01.167
- B. Motyka, J. Fersovich, B. Lamarche, M. Sosniuk, **I. Adam**, J. Pearcey, K. Tao, C. Cairo, P. Cowan, L. West. MHC-Matched A-Expressing Blood Cells Induce ABO Tolerance in Infant and Adult Mice. *Transplantation*, 2018 DOI:10.1097/01.tp.0000542998.16512.0b
- I. Adam**, B. Motyka, J. Pearcey, K. Tao, P. Cowan, L. West. Antibody Response to Non-Self Blood Group A-Antigen depends on CD4 T Cells, Foreign Protein and CD22 Interaction. *Transplantation*, 2018 DOI:10.1097/01.tp.0000542595.01056.65
- J. Fersovich, B. Motyka, B. Lamarche, M. Sosniuk, **I. Adam**, J. Pearcey, K. Tao, C. Cairo, P. Cowan, L. West. Tolerance to A-Antigen After Treatment of Infant or Adult Mice with MHC-Matched A-Expressing Blood Cells. *Transplantation*, 2020 DOI:10.1016/j.healun.2018.01.226
- I. Adam**, B. Motyka, J. Pearcey, K. Tao, L. West. CD4 T Cells, Foreign Protein and CD22 Control Antibody Response to Non-Self Blood Group A-Antigen in A-Transgenic Mice. *Journal of Heart and Lung Transplantation*, 2018 DOI:10.1016/J.HEALUN.2018.01.079
- B. Motyka, Yiqun Wang, B. Lamarche, **I. Adam**, J. Pearcey, K. Tao, C. Cairo, P. Cowan, L. West. Tolerance to Human Blood Group A-Antigen following Exposure to A-Antigen in Infancy. *Transplantation*, 2017 DOI:10.1097/01.TP.0000520402.00087.8D
- I. Adam**, B. Motyka, J. Pearcey, K. Tao, P. Cowan, L. West. Anti-A Antibody Response is Dependent on CD4 T Cells and Co-Engagement With Foreign Protein. *Transplantation*, 2017 DOI:10.1097/01.tp.0000520295.90402.80
- I. Adam**, B. Motyka, J. Pearcey, K. Tao, P. Cowan, L. West. Antibody Response to Non-Self Blood Group A-Antigen Is Dependent on CD4 T Cells and Co-Engagement with Foreign Protein. *Journal of Heart and Lung Transplantation*, 2017 DOI:10.1016/J.HEALUN.2017.01.349
- B. Motyka, Y. Wang, B. Lamarche, **I. Adam**, J. Pearcey, K. Tao, C. Cairo, P. Cowan, L. West. Blood Group A-Antigen Specific Tolerance Following Exposure to A-Antigen in Infant Mice. *Journal of Heart and Lung Transplantation*, 2017 DOI:10.1016/J.HEALUN.2017.01.118
- I. Adam**, B. Motyka, K. Tao, J. Pearcey, L. West. T-Cell Dependence of Antibody Response to Blood Group A-Antigen. *Journal of Heart and Lung Transplantation*, 2016 DOI:10.1016/J.HEALUN.2016.01.252