

Fatheia Nabeil Hamza

Alfaisal University, Riyadh, Saudi Arabia

Born August 25,1983

Sudanese Citizen

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Main Expertise Areas

Cell Biology, Inflammation, Molecular Biology Techniques, Experimental Design, Tissue Culture, *C. elegans*, Flow Cytometry, Handling & analysing Tuberculosis Samples, Leishmania culture, ELISA, Western blotting, PCR quantification & real time PCR & Statistical packages (GraphPad).

Education:

- 2015-2017 **MSc in Biomedical science, First Class.** Neutrophil Migration in response to LPS: Possible Role of CD4 on Neutrophils in Murine Model of ALI/ARDS. Faculty of Medicine, **Alfaisal University**, Riyadh, KSA.
- 2001-2007 **Bachelor of Science (Hons) First Class, Zoology.** Distribution and Abundance of snails in Seilate Scheme. Faculty of Science, **University of Khartoum**, Khartoum, Sudan.

Work and Research experiences:

09/2018 - Present Research assistant, Lecturer, Biomedical research core lab manager, College of Medicine, Department of Biochemistry and Molecular Medicine, Alfaisal University, Riyadh, K.S.A.

Responsible for teaching molecular biology laboratory and basic biochemistry. participated in different research projects in my department and other departments in the college of medicine. Responsible for lab ordering, lab safety.

- 2015- 2018** **Lab Manager/ Lab technician - College of Medicine, Department of Biochemistry and Molecular Medicine, Alfaisal University, Riyadh, K.S.A.**
- Responsible for lab ordering, lab safety, and establishing molecular biology lab & pharmaceutical lab. Conducting DNA extraction, PCR, Real-time PCR experiments.
- 2014- 2015** **Product specialist- Enjaz Medical Modern Company, Riyadh, K.S.A.**
- Responsible for organizing and delivering workshops for lab equipment training such as real-time PCR, cell homogenizer & flow cytometry.
- 2013- 2014** **Trainee/ Research technician, King Faisal Specialized Hospital & Research Centre, Molecular Oncology Department, Riyadh, K.S.A.**
- Responsible for tissue culture of cancerous cells.
- 2011- 2012** **Trainee/ Research technician, King Faisal Specialized Hospital & Research Centre, Stem cell & tissue re-engineering program, Riyadh, K.S.A.**
- Investigating the biology of primitive hematopoietic stem cells in cord blood and bone marrow samples.
- 2009-2010** **Teaching assistant, University of Medical Science & Technology, Khartoum, Sudan.**
- Teaching basic biology lab techniques
- 02/2009 – 05/2009** **Trainee/ Research technician, Department of Molecular Biology & Immunology, Institute of Endemic Diseases, Khartoum, Sudan.**
- Handling Tuberculosis samples and detection of Mycobacterium tuberculosis using PCR.
- 2008 - 2009** **Teaching assistant, Faculty of Science, University of Khartoum, Sudan.**
- Teaching biology for 2nd year science students.
- 08- 09/2008** **Trainee/ Laboratory technician, Department of Virology & Haematology, Pasteur Institute, Ministry of Health, Casablanca, Morocco.**
- Handling blood samples and performing basic blood testing, diagnosis of HIV using ELISA.

Laboratory skills and techniques:

- **Cell culturing and isolation**
 - Handling and maintenance of long-term cultures and cell differentiation.
 - Macrophages and Neutrophils isolation
 - Isolation of peripheral blood mononuclear cells (MNCs) from cord blood and bone marrow samples.
 - Leishmania culture.
 - Stem cells culture.
 - *C. elegans* culture.

- **Flow Cytometry applications including.**
 - Surface and intracellular molecules staining.
 - DNA cell cycle analysis.
 - Cell viability.
 - Florescent Activated and Magnetic Activated Cell sorting (FACS & MACS).
 - Data analysis and storage using the Cell quest and Pro-Cell quest software.

- **Molecular Biology and proteomics techniques:**
 - DNA & RNA extraction and cDNA synthesis
 - PCR quantification and real time PCR.
 - Protein extraction and quantification.
 - Western blotting.

- **Assays and tests:**
 - Testing plant-based antimicrobial compounds on *C. elegans*
 - ELISA.
 - In vitro transwell migration.
 - Colony forming unit (CFU) assay
 - Diagnosis of Tuberculosis using PCR technique.
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Relevant Experiences:

- Excellent written and oral communication skills.
- Flexible, resilient, and confident.
- Excellent leadership skills.
- Effective organizational and excellent time management skills.
- Self-motivated, dynamic and an effective team player.

Languages: English (fluent) & Arabic (Native speaker).

Honours:

- Awarded a fully funded Scholarship from King Faisal Foundation - Prince Sultan Program - for MSc in Biomedical science 2016-2017
- Awarded Three-minute thesis presentation competition 2012 (Third position) during the training at King Faisal Specialized Hospital & Research Center, Stem cell & tissue re-engineering program, Riyadh, K.S.A.
- Awarded the Best Academic writing competition in 2012 (second position) during the Stem cell & tissue re-engineering training program at King Faisal Specialized Hospital & Research Center, Riyadh, K.S.A.

Peer-reviewed Papers:

- Samah H O Zarroug , Juhaina S. Bajaman, **Fatheia N. Hamza**, Rimah Saleem, Hana Abdalla (2023) *Caenorhabditis elegans* as an in vivo model organism for the discovery and development of natural plant-based antimicrobial compounds. research assistant. Status: (submitted to peer-review journal)
- **Hamza FN** & Alekhmimi N., Bou Matar DS, Barakzai A, Al Heialy S, Kvietyts PR, Al-Kattan K. (2021) Pulmonary Innate Immune Response to Inhaled LPS is Impaired in CD4 Deficient Mice. Sponsored by KACKST (2M SR). Work description: graduate student & research assistant. Status (submitted to peer-review journal)
- **Hamza FN** & Fakhoury HMA (2021). A study of the association of *Vascular Endothelial Growth Factor* gene polymorphisms with hypertension. Sponsored by IRG (50,000SR). Work description: research assistant. Status (in progress).
- **Hamza FN**. Vitamin D as an anti-inflammatory agent and its possible role in delaying the progression of diabetic nephropathy.
- **Hamza FN** (2017). Neutrophil migration in response to LPS: possible role of CD4 on neutrophils in murine model of ALI/ARDS. (Master thesis). Alfaisal University, Riyadh, KSA.

Conference & Scientific Committees Involvement:

- Ameera Gaafar, Ayodele Alaiya Aminah Ghazi Alotaibi, **Hamza FN**, Alia. Iqniebi, Pulicat Subramanian Manogaran, A Al-Mazrou, Iman Barhoush, Morad Ahmed Alkaff, Hind Al-Humaidan, Khalid Al-Hussein. Cellular and Molecular Profiling of Primitive HSC Subsets in Umbilical Cord Blood samples: Implications for Cellular Therapy 2011 Annual Research Report, 16-17April 2014, Prince Salman Auditorium, KFSHRC, Riyadh KSA.

- Ameera Gaafar, Ayodele Alaiya Aminah Ghazi Alotaibi, **Hamza FN**, Alia. Iqniebi, Pulicat Subramanian Manogaran, A Al-Mazrou, Iman Barhoush, Morad Ahmed Alkaff, Hind Al-Humaidan, Khalid Al-Hussein. Cellular and Molecular Profiling of Primitive HSC Subsets in Umbilical Cord Blood samples: Implications for Cellular Therapy. The 43rd Annual Scientific Meeting of the ISEH-Society for Hematology and Stem Cells, August 21-24, 2014, Montreal, Canada.

Publication:

- Zarroug SHO, Nammor T, Eisa S, et al. Acacia ehrenbergiana (Hayne) and Prosopis juliflora Extracts Promote the Survival of Caenorhabditis elegans Infected with Methicillin-Resistant Staphylococcus aureus. Natural Product Communications. 2024;19(8). doi:10.1177/1934578X241279065
- Zarroug, S.H.O.; Bajaman, J.S.; **Hamza, F.N.**; Saleem, R.A.; Abdalla, H.K. Caenorhabditis elegans as an In Vivo Model for the Discovery and Development of Natural Plant-Based Antimicrobial Compounds. Pharmaceuticals 2023, 16, 1070. <https://doi.org/10.3390/ph16081070>
- **Hamza FN**, Daher S, Fakhoury HMA, Grant WB, Kviety PR, Al-Kattan K. Immunomodulatory Properties of Vitamin D in the Intestinal and Respiratory Systems. Nutrients. 2023; 15(7):1696. <https://doi.org/10.3390/nu15071696>

References:

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