



Ghada KHAWAJA

Nationality: Lebanese **Date of birth:** 10/04/1985 **Gender:** Female

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Home: Beirut (Lebanon)

ABOUT ME

Molecular Biologist and Immunologist with over 14 years of teaching experience in undergraduate and graduate courses. Committed to inspiring students and enhancing their educational experience through active engagement with employers and career preparation. Research focuses on immune system dynamics in infectious diseases, autoimmunity, and cancer, as well as complementary therapies and vaccine development. Accomplished in supervising 17 Master's theses and 11 PhD dissertations, with contributions to highly indexed scientific journals.

WORK EXPERIENCE

Beirut Arab University – Beirut, Lebanon

Assistant Dean, Faculty of Science

[01/09/2018 – Current]

- Forged and developed new relationships with international institutions.
- Worked collaboratively in reviewing and reinforcing the Faculty programs to provide students with scientific knowledge as well as transferrable skills to meet with market needs.
- Oversaw and coordinated all activities that support student recruitment, registration and orientation.
- Conceptualized and organized a series of Internship and Career Talks to connect students, graduates and alumni with potential employers and help them explore career options and internship opportunities in the market.
- Conceptualized and coordinated a series of Career Development Workshops to provide students with the foundational "soft skills" and enhance workforce readiness.
- Reinforced local internships programs in schools, pharmaceutical companies, healthcare centers, hospitals, industries as well as international research collaborations.
- Reinforced the services that could be provided to communities and businesses to improve community engagement and outreach.
- Strengthened relationships with Faculty alumni and stakeholders.
- Assisted in the preparation of Faculty-related documents: curriculum, annual reports, quality assurance reports, Faculty webpage content, etc.
- Managed and coordinated Science Outreach Programs to High School Students.
- Assisted the Dean in day-to-day administrative operations.

Beirut Arab University, Faculty of Science, Department of Biological Sciences – Debbieh, Lebanon

Associate Professor of Molecular Biology & Immunology

[01/09/2012 – Current]

Full time faculty member.

Worked in a professional, collegial, and team-oriented mindset.

Taught a total of 15 undergraduate and 6 graduate courses, including Clinical Immunology, Microbiology & Immunology and Molecular Biology & Genetics for Medical Faculties' students.

Supervised 17 Master's thesis projects and 11 PhD dissertations and served as an examiner for 25 graduate thesis' evaluation.

Supervised undergraduate senior students' projects.

Supported effectively undergraduate and graduate students through academic advising and office hours.

Established tracks within the Department undergraduate programs.

Participated in the development of new specializations in MS programs.
Participated in all quality assurance activities.

EDUCATION AND TRAINING

PhD - Molecular Biology, virology & Immunology

Claude Bernard Lyon1 University (UCBL), FRANCE - (Mentor: Pr. Lucyna COVA) [2008 – 2012]

City: Lyon | Country: France

Master of Research – Structural and Functional Biochemistry

Claude Bernard Lyon1 University, FRANCE [2007 – 2008]

Country: France

Master of Chemical Sciences - Specialty: Biochemistry

Lebanese University, LEBANON [2003 – 2007]

Country: Lebanon

PUBLICATIONS

[2026]

Swertiamarin fails to induce cytotoxicity in colon cancer cell lines: Evidence against a direct anticancer effect.

Ghada Khawaja*, Aya Shoujaa, Youmna El-Orfali and Michel J. Massaad. 2026. Plos One 21(3): e0344653

[2026]

Longitudinal T- and B-cell recall response after vaccination with Pfizer-BioNTech mRNA vaccine BNT162b2.

Youmna El-Orfali, Rana Mansour, Habib Al-Kalamouni, Ziad Jabbour, , Antoine Abou Fayad, Esber Saba, Ghada Khawaja, and Michel J. Massaad. Journal of Allergy and Clinical Immunology 2026; 157:495-505.

[2026]

Development and persistence of memory immune recall response following SARS-CoV-2 infection in children.

Youmna El-Orfali, Rana Mansour, Habib AlKalamouni, Ghada Khawaja and Michel J. Massaad, Clinical Immunology 285 (2026) 110689.

[2025]

Enhancing Chemotherapy Efficacy: Examining the Combination Effect of Terfezia boudieri Water Extract with First-Line Drugs Against Cancer Cell Lines.

Katia Sawaya, Salma Khazaal, Mahmoud I. Khalil and Ghada Khawaja*. 2025. Arabian Journal of Medicinal & Aromatic Plants Vol11 N3

[2024]

Review: Galangin: A Promising Flavonoid for the Treatment of Rheumatoid Arthritis—Mechanisms, Evidence, and Therapeutic Potential.

G. Khawaja*, Y. El-Orfali, A. Shoujaa and S. A. Najem. Pharmaceuticals 2024, 17, 963.

[2024]

T. Boudieri Extract Potentiates The Effects of Capecitabine Treatment in Human Colon Cancer Cells.

K. Sawaya, M. khalil and G. Khawaja. BAU Journal - Science and Technology (2024).

[2024]

Silibinin's Effects against Methotrexate-Induced Hepatotoxicity in Adjuvant-Induced Arthritis Rat Model.

G. Khawaja,* and Y. El-Orfali. Pharmaceuticals 2024, 17(4), 431.

[2024]

Cannabinoid Receptor 2 Gene (CNR2) polymorphism and the risk of developing Rheumatoid Arthritis in Lebanese patients.

Morouj Ismail and Ghada Khawaja. Cannabis & Cannabinoid research 2024.

[2024]

Rosemary essential oil potentiates the antitumor activity of 5-fluorouracil in human colorectal carcinoma cells.

A. El Sala^, G. Khawaja^, M. Khalil, S. Abdel Salam. Journal of Pharmacy and Pharmacology.

[2024]

Molecular properties prediction, Anticancer and Anti-inflammatory Activities of Some Pyrimido[1,2-b]pyridazin-2-one derivatives.

A. Zeiz, R. Kawtharani, M. Elmasri, G.Khawaja, E. Hamade,, M. H. El-Dakdouki*. Bioimpacts.

[2023]

Synthesis of Ruthenium Complexes and their Antibacterial and Anticancer Effects.

A. Zeiz, S. Chaaya, A. Hijazi, E. Hamade, G. Khawaja, M. H. El-Dakdouki*. Farmacia

[2023]

Proapoptotic and Antiproliferative Effects of the Desert Truffle Terfezia boudieri on Colon Cancer Cell Lines. 2023.

K. Sawaya, S. A Najem, G. Khawaja, M. Khalil. Evidence-based Complementary and Alternative Medicine

[2019]

Adjuvant Epigenetic Therapy of Decitabine and Suberoylanilide Hydroxamic Acid Exerts Anti neoplastic Effects in Acute Myeloid Leukemia cells.

S. A. Najem, G. Khawaja, M. Hodroj, P. Babikian and S. Rizk. Cells. 2019 8(12).

[2019]

Synergistic Effect of Epigenetic Inhibitors; Decitabine and Suberoylanilide Hydroxamic Acid, on Colon Cancer.

S.Abou Najem, G. Khawaja, M. Hassan Hodroj, S. Rizk. Current Molecular Pharmacology 2019, 12 (4).

[2019]

Effect of Adjuvant Epigenetic Therapy on KG-1 Acute Myeloid Leukemia Cells in Vitro.

S.A. Najem, G. Khawaja, S. Rizk. Clinical Lymphoma, Myeloma and Leukemia 2019, Volume 18, S207

[2018]

Association of cannabinoid CB2 receptor gene (CNR2) polymorphism, Q63R variant, with Rheumatoid Arthritis in the Lebanese Population.

M. Ismail M. & G. Khawaja G*. Clinical Rheumatology 2018, 37:2933.

[2018]

Therapeutic Benefits of Indole-3-Carbinol in Adjuvant-Induced Arthritis and its Protective Effect against Methotrexate Induced-hepatic Toxicity.

Hasan H., Ismail H., El-Orfali Y., Khawaja G.* BMC Complementary and Alternative Medicine 2018.

[2018]

Anti-Inflammatory, anti-oxidative and hepatoprotective effects of trans-Δ9-Tetrahydrocannabinol/sesame oil on adjuvant- induced arthritis in rats.

Ismail M., Hasan H., El-Orfali Y., Khawaja G.* Evid.-Based Complementary Altern. Med

[2015]

Isolation, Purification and Identification of some Multi-Drug Resistant Food-Borne Pathogens in Lebanese Fresh Produce

Khatib A, Olama Z, Khawaja G. European Journal of Biology and Medical Sciences Research 2015.

[2015]

Bacterial Diversity and Biofilm Formation in Drinking Water Distribution System in Lebanon

A. Hamiyeh, Z. Olama, G. Khawaja. Int.J.Curr.Microbiol.App.Sci 2015.

[2015]

Shiga Toxin-Producing E.coli (STEC) Associated with Lebanese Fresh Produce

Khatib A, Olama Z, Khawaja G. Int.J.Curr.Microbiol.App.Sci 2015.

[2012]

Enhanced magnitude and breadth of neutralizing humoral response to a DNA vaccine targeting DHBV envelope protein delivered by in vivo electroporation

Khawaja G, Buronfosse T, Jamard C, Guerret S, Zoulim F, Evans C, Cova L. Virology 425 (2012)

[2012]

In vivo electroporation significantly improves therapeutic potency of a DNA Vaccine targeting Hepadnaviral proteins

Khawaja G, Buronfosse T, Guerret S, Zoulim F, Cova L. Journal of Hepatology 2012 vol. 56 (2):S177

[2012]

In vivo electroporation improves therapeutic potency of a DNA vaccine targeting hepadnaviral proteins.

Khawaja G, Buronfosse T, Abdul F, Jamard C, Zoulim F, Cova L. Virology 433(2012)192–202.

[2011]

DRASTIC INCREASE IN PROPHYLACTIC AND THERAPEUTIC POTENCY OF DNA VACCINE TARGETING HEPADNAVIRAL PROTEINS BY IN VIVO ELECTROPORATION 1543

G. Khawaja; T. Buronfosse; C. Jamard; L.Cova. Hepatology. 54(4):1093A, October 2011.

[2011]

Co-Administration of Gamma Interferon Gene with DNA Vaccine Expressing Duck Hepatitis B Virus (DHBV) Proteins Enhances Therapeutic Efficacy of DNA-Based Immunization in Chronic Virus Carriers.

Saade F, Buronfosse T, Khawaja G, Cova L. Chapter 5, DNA Vaccines. Nova science publishers.

HONOURS AND AWARDS

[02/05/2025] Beirut Arab University

Promotion to Associate Professor Rank Excellence in Teaching, Research and Community Service

[01/10/2024] Beirut Arab University

Intramural Grant

[10/2008] Rhône-Alpes Regional Council Doctoral Research (Infectiology, Immunology, Cancerology cluster)

Doctoral Fellowship

LANGUAGE SKILLS

Mother tongue(s): Arabic

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

French

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

RESEARCH EXPERIENCE

[01/09/2012 – Current]

Projects Undertaken, Beirut Arab University

- Characterization of SARS-CoV-2-Specific Immune Responses Induced by Vaccination or Natural Infection.
- Studies of association between genetic variations, including single nucleotide polymorphisms (SNPs) and variation in Rheumatoid arthritis (RA) disease susceptibility in the Lebanese population.
- Investigating the therapeutic effect of several promising natural antioxidants with anti-inflammatory activities in modulating the progression of Rheumatoid Arthritis disease and/or circumventing the hepatocellular toxicity induced by conventional treatment using an experimental model for RA in rats known as Adjuvant-Induced Arthritis model.
- Investigating complementary & alternative treatment strategies (natural compounds or epigenetic drugs) for Cancer in *in vitro* setting and deciphering the impact of combined therapy on proapoptotic, antiproliferative and proliferative pathways.
- Molecular detection of antimicrobial resistance and virulence markers.

[2012 – 2012]

Doctoral Researcher, Cancer Research Center-Lyon affiliated to UCBL, France

Thesis: "Development of a therapeutic DNA vaccination against chronic hepatitis B infections".

- Investigated the effect of an Electroporation-based DNA delivery approach on the safety, immunogenicity, and dose-efficiency of a prophylactic DNA vaccine, and on the immunotherapeutic efficacy of a DNA vaccine for chronic Hepatitis B virus infections. In a preclinical animal model, I provided first evidence on the efficiency of this novel delivery approach to cure chronic Hepatitis B, which has been extrapolated to clinical research and reached phase II trials.

THESIS SUPERVISION

PhD. Thesis Supervision

Maysa Chkeir; "Investigating the Therapeutic Potential of Galangin in Overcoming Drug Resistance and Modulating Cancer Pathways in Glioblastoma" (co-supervision - In progress)

Maya Abou Chahla; "The Therapeutic Potential of Galangin for Cervical Cancer: An In Vitro Study of Its Standalone Effects and Its Combination with Chemotherapy" (co-supervision - In progress)

Seyedeh Zahra Jarf; "Uncovering Novel Genotype-Phenotype Associations in Inherited Retinal Diseases through Whole-Exome Sequencing and Functional Characterization" (co-supervision - In progress)

Mirna Azouri; "Investigating the Efficacy of Iodine and/or Curcumin on Different Phytoestrogen-treated Types of Cancer Cells" (co-supervision – collaboration with LAU and Alexandria University - In progress)

Younna El-Orfali; Characterization of SARS-CoV-2-Specific Humoral and Cellular Immune Responses Induced by Vaccination or Natural Infection (co-supervision – collaboration with AUB and Alexandria University - Submitted)

Katia Sawaya; "Effect of the Desert Truffle *Terfezia boudieri* extracts on Colon Cancer Cell Lines" (co-supervision – submitted)

Ali El Zeiz; "Assessment of the Potential Inhibitory Effect of Heterocyclic Derivatives for Akt Mechanism in Cancer Cells" (co-supervision – submitted)

Sonia Abou Najem; "Effect of Epigenetic Therapy on Acute Myeloid Leukemia and Colon Cancer" (Main supervision - collaboration with Lebanese American University (LAU), Lebanon, submitted).

Mourouj Ismail; "Study of Cannabinoid Receptor 2 Gene Polymorphism in Rheumatoid Arthritis (RA) in Lebanese Patients and the effect of its Agonist Δ^9 -tetrahydrocannabinol on an RA mouse model" (Main supervision - submitted).

Alissar Khatib; "The Dynamics of Antimicrobial Resistance of Some Food-Borne Pathogens in Lebanese Fresh Produce: Control and Prevention" (co-supervision - submitted).

Alyaa Hamieh; "Microbial Diversity and Biological Treatment of Microbial Communities in Drinking Water Distribution Systems in Lebanon" (co-supervision - submitted).

M.Sc. Thesis Supervision

Aya Shoujaa; Therapeutic Benefits of Swertiamarin and 5-Fluorouracil on Various Colon Cancer Cell Lines (Main Supervision – collaboration with AUB and Higher Colleges of Technology, Abu Dhabi- Submitted)

Bahaa Hassanieh; "Effect of Propolis and 5-Fluorouracil on HCT-116 cells" (Co-supervision - Submitted).

Amine Salla; "Effect of the Co-treatment of the Essential Oil of Rosemary and 5-Fluorouracil on Colon Cancer in vitro" (Co-supervision - Submitted).

Ahmad Kasha; "Effect of Metformin and/or Glimebride on some Inflammatory Markers in a Cohort of Iraqi Patients with Type II Diabetes Mellitus" (Main supervision - Submitted).

Ahmad Al Aljanabi; Effect of Insulin and Saxagliptin on IL-6, CRP, CCL-2 and TNF- α in a Cohort of Iraqi Patients with Type II Diabetes Mellitus (Main supervision - Submitted).

Farouk Al-Kaakour; "Investigating the Selective Inhibition of Regulatory T cells by Targeting PI3K Isoforms on Tumor Growth and Mice Survival". (Main supervision - collaboration with Georgetown University in US, Submitted).

Mireille Annan; "Potential Therapeutic Effect of Chrysin in Arthritis Rat Model" (Main supervision -submitted).

Ola Ghaziri; "The Potential Therapeutic Effects of Lebanese *Ceratonia Siliqua* in Arthritis Rat Model" (Main supervision - submitted).

Farah Yazbek; "Prevalence and Antibiotic Resistance Pattern of Group B Streptococcus Isolated from Pregnant Women in South Lebanon" (co-supervision - submitted).

Mohammed Alazzawi; "A study of the Cytokines Profile in Treatment-Naïve HCV Infected Patients in Iraq" (Main supervision - submitted).

Younna El-Orfali; "The Effect of Silibinin against Methotrexate-Induced Hepatotoxicity in Arthritis Rat Model" (Main supervision - submitted).

Hanan Ismail; "The Effect of Indole-3-Carbinol on Methotrexate-Induced Hepatotoxicity in Arthritis Rat Model" (Main supervision - submitted).

Hiba Hasan, "The Anti-inflammatory Effect of Indole-3-Carbinol and Silibinin in Collagen Induced Arthritis Mouse Model" (Main supervision - submitted).

Mohammad Nsaif; "Antimicrobial Resistance Pattern in Biofilm Associated with Medical Devices" (co-supervision - submitted).

Ghaida Mohamad; "Assessing the Antioxidant Activity of Rubus Hedycarpus Plant Extracts in Vitro and in Vivo" (co-supervision - submitted).

Zeinab Naser El Dine, "Environmental Factors Affecting Microbial Pectinase Production" (co-supervision - submitted).

Omar Asafiri; "Evaluating the Antibacterial Effects of Different Parts of Rubus hedycarpus Against Drug Resistant Bacterial Strains" (co-supervision - submitted).

TEACHING EXPERIENCE

[01/09/2012 – Current]

Beirut Arab University, Faculty of Science

Undergraduate courses

First Level Courses: Introduction to Biology (Freshman program), Biology I, Biology II, Human Physiology

Second Level Courses: Cell & Molecular Biology, Immunology, Genetics, Cell & Tissue culture

Third Level Courses: Histology, Virology, Biology Senior Project.

Courses offered to Medical Faculties: Microbiology & Immunology for Dentistry 1st level students, Clinical Immunology for Health Science students, and Molecular Biology & Genetics for Medicine students.

General Elective Course offered to all University students:

Work Ready Now Course (since 2020_2021): Teaching and **coordinating a university elective course** as part of the Higher Education Capacity Development (HECD) Program, supported by the United States Agency for International Development (USAID), and implemented by the Education Development Center (EDC). The Work Ready Now has been implemented as a university mandatory course at BAU from Fall 2024/2025.

Graduate courses

MS courses: Advanced Immunology, Advanced Topics in Molecular Biology, Advanced Cell Biology, Research Techniques, Tissue Culture Techniques, and Individual Directed Studies.

PhD course: Seminar in Immunogenetics

SERVICE

University Service

Coordinator of the Work Ready Now course 2023 - present

Member of BAU International Relations Committee 2023 - present

Member of Faculty Council Committee 2018 - present

Head of Community Service & Alumni Committee 2019- present

Head of BAU 3rd Annual Science Fair organizing committee 2022/2023

Member of BAU Institutional Review Board committee 2022/2023

Head of student activities committee 2017/2018

Member of BAU Financial Aid Committee 2017/2018

Member of Student Activities committee 2013 - 2018

Member of Quality Assurance Committee 2015/2016

Head of the organizing committee of BAU 2nd Annual Science Fair event for High School Students 2021/2022

Head of the organizing committee of BAU Virtual Science Fair event for High School Students (April 12 & 24, 2021).

Member of the organizing committee of "Harmless use of nuclear and radiation energy" workshop organized in collaboration with the Lebanese Atomic Energy Commission (March 28, 2019)

Member of the organizing committee of the first Student Innovation & Research Conference for Arab Universities & Schools (March 27 & 28, 2018).

Member of the organizing committee of the first International Youth Leadership Camps at BAU (August 1st to August 12th, 2018).

Member of the organizing committee of New Trends in Cancer Research workshop (November, 8 2016)

Memberships in Technical Program Committees

- Technical Program committee member of the "First Annual STEAM fair" held at Lycee National in Bchamoun campus on May 1st 2019.
- Technical Program committee member of "Beirut International Invention Show" held on 11 April 2017
- Scientific Committee member of the 23rd International Scientific Conference "Research and Science in the Service of Humanity" 6-7 April 2017 held in Lebanese University, Rafic Hariri Campus - Hadath.
- Program Committee member of the 22th Lebanese Association for the Advancement of Science LAAS 16 International Science Conference held at USEK university 14-15 April 2016.

Membership in Professional Organization

Member of the Inter-University Cooperation Committee of UAOL (Universities Association of Lebanon) 2020-2021

PROFESSIONAL DEVELOPMENT

Attended several workshops & trainings:

- **ERASM+ mobility to Koç University, Turkey;** took part in the **International Week and Study Abroad Fair** of the Office of International Programs, **Koç University** (May 12-16, 2025).
- **"Communication and Presentation Skills for Academic Excellence"** organized by the Human Resources Department of Beirut Arab University (August 25 - 27, 2025)
- **HECD Grant Writing Webinar series** delivered by international experts from Florida State University as part of the Higher Education Capacity Development (HECD) Program (June 6-8, June 17- 24, 2022)
- **"Inspiring and motivating people" online course** as part of leading people and teams specialization delivered by experts from University of Michigan on Coursera (April 2022)
- **"Introduction to Project Management** by ClickUp on coursera (March 2022)
- **"Grant Writing in Higher Education" Workshop** delivered by international experts from Florida State University as part of the Higher Education Capacity Development (HECD) Program funded by the United States Agency for International Development (USAID) (July 1st, 2021)
- **"Tools for Online Teaching" Webinar** delivered by international experts from Education Development Center (January 14, 2021)
- **Certified instructor for Work Ready Now Course,** attended **HECD WRN Virtual Training of Trainers workshop** delivered by international experts from Education Development Center (December 7 -11, 2020)
- **"Teaching & Learning: Curriculum Design, Assessment & Feedback"**, organized by the Faculty of Human Sciences, BAU in Collaboration with the University of Roehampton (January 28, 2017)
- **Enhancement of Staff-members Teaching Skills workshop,** BAU (October 10 -11, 2015)
- **Radiation and Safe handling of radioisotopes training,** IRSN, France (2009)
- **Tissue Culture training,** Lyon Cancer Research Center, France (2008)

CONFERENCES

[02/10/2025 – 04/10/2025]

Longitudinal T- and B-cell recall response after vaccination with Pfizer-BioNTech mRNA vaccine BNT162b2.

Younna El-Orfali, Rana Mansour, Habib Al-Kalamouni, Ziad Jabbour, , Antoine Abou Fayad, Esber Saba, **Ghada Khawaja**, and Michel J. Massaad. **Poster Presented** at the 25th Annual Congress of the Lebanese Society of Infectious Diseases and Clinical Microbiology

Effect of Adjuvant Epigenetic Therapy on KG-1 Acute Myeloid Leukemia Cells in vitro.

Abou Najem S., Khawaja G., Hodroj H., Rizk S.* *Soho Annual Meeting September 2018, USA*

Therapeutic Benefits of Indole-3-Carbinol in Adjuvant-Induced Arthritis and its Protective Effect Against Methotrexate Induced-Toxicity.

Hasan H., Ismail H., El-Orfali Y., Khawaja G.* **2019 YOUNG BIOLOGIST SYMPOSIUM: Advances in Biological Sciences.** (Best Poster award)

Indole-3-Carbinol: Potential therapeutic agent in the treatment of Arthritis.

Hasan H., Ismail H., El-Orfali Y., Khawaja G.* **1st Student Innovation & Research Conference for Arab Universities & Schools, 2018 (Award for best oral presentation)**

Isolation of Microorganisms from Endotracheal Tube Biofilms.

Nsaif M., Yusef H., Khawaja G. **22nd LAAS International Science Conference, Beirut, Lebanon (2016)**

Assessing the antioxidant activity of the plant Rubus hedycarpus in vitro and in vivo.

Mohammed, G., Khawaja, G., El-Dakdouki, M.H. **22nd LAAS International Science Conference, Beirut, Lebanon (2016)**

Assessing the Antibacterial Efficacy of Rubus hedycarpus and Qualitative Analysis of the Phytochemical Composition.

Assafiri, O., Khawaja, G., El-Dakdouki, M.H. **22nd LAAS International Science Conference, Beirut, Lebanon (2016)**

Production of exo-polygalacturonase by microbial species isolated from agro wastes.

Naser Z., Khawaja G., Yusef H. **22nd LAAS International Science Conference, Beirut, Lebanon (2016)**

In vivo electroporation significantly improves therapeutic potency of a DNA vaccine targeting hepadnaviral proteins.

Khawaja G. et al., *International congress of the European Association for the Study of the Liver (EASL), Barcelona, SPAIN (2012)*

Drastic increase of potency of DNA vaccine targeting hepadnaviral proteins by in vivo electroporation.

Khawaja G. et al., *American Association for the Study of Liver Diseases (AASLD), San Fransisco, USA (2011)*

Augmentation de l'efficacité immunothérapeutique du vaccin à ADN par électroporation in vivo dans le modèle d'infection chronique du canard par le DHBV.

Khawaja G. et al., *ANRS meeting, Paris, France (2011)*

Dramatic increase in prophylactic and therapeutic efficacy of DNA vaccine targeting DHBV proteins by in vivo electroporation.

Khawaja G. et al., *International HBV meeting, Orlando, USA (2011)*

Augmentation de l'efficacité du vaccin à ADN nu, ciblant la protéine d'enveloppe du DHBV, par électroporation in vivo.

Khawaja G. et al. *Journées francophones de virologie, Paris, France (2010)*

PROFESSIONAL SKILLS.

Skills

Molecular Biology techniques

Plasmid construction, Plasmid and genomic DNA and RNA isolation, PCR, RT-PCR, Plasmid Giga preparation, Enzyme and hormonal assays, Gene cloning from bacteria, Protein isolation, SDS-PAGE, Western blotting,

Immunological techniques

Radioimmunoassay (RIA), Enzyme-Linked Immunosorbent Assay (ELISA), Epitope mapping, Serum virus neutralization assays, Isolation of leukocyte subpopulations, Assessment of functional activity of lymphocytes by ELISPOT, Detection of T-cell subsets through intracellular staining for expression of cytokines

Cell Biology techniques

Cell culture and maintenance, Physiological assays investigating cellular death, growth and apoptosis, Light / Fluorescent microscopy, Establishment of primary cell cultures, Flow Cytometry

Histological techniques

Histological processing and sectioning of paraffin embedded tissues, Differential staining of tissue sections, Immunohistochemistry

Bioinformatics

Next-generation sequencing analysis, Molecular sequence analysis, Primer design.

Animal handling

Teaching

Curriculum design and development, syllabus construction, modern teaching methods: Student-centered teaching, Technology integration, Problem-based learning, Project-based learning.

Technical skills

Advanced user of Microsoft Office Suite, including Excel, PowerPoint and Word, Graphpad Prism for scientific graphing and data analysis, Interactive online tools (Padlet, PollDirect, AnswerGarden, kahoot).