

Curriculum Vitae

Dr. Walhan Alshaer



Personal Information:

- Date of Birth: 16th July 1982
- Place of Birth: Jordan
- Nationality: Jordanian

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Specialization

Pharmaceutical Techniques and Biopharmaceutics

Education:

Ph.D. "Pharmaceutical techniques and biopharmaceutics (Nanobiotechnology and drug delivery systems)".

(October/2012 - March/2016)

- Faculty of Pharmacy, Institut Galien, University Paris Saclay), France
- Thesis advisor: **Prof. Elias FATTAL.**

The Ph.D. thesis titled "*Functionalizing liposomes with aptamers for active targeting of tumor cells*". The Ph.D. project was focused on developing PEGylated liposomes loaded with siRNA and functionalized with anti-CD44 aptamer that is selectively targeting tumors both *in vitro* and *in vivo*.

Master of Science (MSc) - "Medical Laboratory Sciences" (2005 to 2009).

- Faculty of Medicine, The University of Jordan, Jordan.
- Research advisors: **Prof. Said Ismail, Prof. Azmi Mahafzah.**

The master thesis titled "In Vitro Selection of Single Stranded Oligonucleotide Ligands (Aptamers) that inhibit the Activity of Recombinant Jak2 Kinase Domain". The master project was focused on optimization and selection of aptamers using SELEX methodology.

Bachelor of Science (BSc) - "Medical Laboratory Sciences" (2000 to 2004).

- University: Jordan University of Science and Technology, Jordan.
- Faculty: Faculty of Applied Medical Sciences.

Employment

- 1/2021-now: **-Associate Researcher (Equiv. Associate Professor).**
- 6/2021-8/2023 **-Consultant at GMS Holdings.**
- 1/2017-1/2021: **-Assistant Researcher (Equiv. Assistant Professor).**
Cell Therapy Center, The University of Jordan, Amman, Jordan.
- 3/2016-1/2027 **-Consultant at Hikma Pharmaceuticals plc.**
- 2/2010- 7/2012: **- Acting Head of Medical Laboratory Sciences Department.**
Al-Ghad international colleges for applied medical sciences, Department of Clinical Laboratory Sciences, Al-Madeenah Al Monawarah, Saudi Arabia.
- 11/2005-2/2010: **Research Assistant.**
Molecular Biology Research Laboratory, Faculty of Medicine, The University of Jordan, Amman, Jordan.
-Research supervisor: Prof. Said Ismail.
-Project: Development of Aptamers for Diagnostic and Therapeutic Approaches.
- 9/2004-10/2005: **Medical Technologist.**
Laboratory department, Jordan Medical Aid for Palestinians (MAP), Jordan.
- 7/2004-9/2004: **Medical Technologist.**
MedLabs Consultancy Group, Diagnostic Laboratories, Amman-Jordan.

Current research interests/projects:

- Nanomedicine and Targeted drug delivery systems.
- Drug bioconjugates.
- Nucleic acids-based therapeutics (Aptamers, siRNA, Genes).
- Cancer resistance and molecular pharmacology.
- Stem Cell tracking.

Boards and Committees served

- Head of aptamers science lab at cell therapy center.
- Member of Nanotechnology Council at The University of Jordan
- Member of the international society on Aptamers (INSOAP).
- Member of International Society for Drug Delivery Sciences and Technology (APGI).
- Member of many committees at the University of Jordan.
- A reviewer for different journals (i.e., Advanced drug delivery reviews, ACS Nano, Asian Journal of Pharmaceutical Sciences, Cell Communication and Signaling, IET Nanobiotechnology, Pharmaceutical Development and Technology, Cancer Management and Research, OncoTargets and Therapy, Pharmacogenomics and Personalized Medicine, Heliyon, Drug Delivery Science and Technology, Biotechnology, ChemistrySelect, and others).

Honors and Awards

- 1) **Named in the world's top 2% of Scientists List for the year 2023, Stanford ranking.**
- 2) **Certificate of Honor for being one of the inventors at the University of Jordan, for the year 2023.**
- 3) **Gold Medal Award in Virtual International Research and Innovation Symposium and Exposition 2022 (RISE 2022), 26 Oct 2022, co-researcher**
- 4) **Certificate of Honor for being one of the best researchers at the University of Jordan, for the year 2019.**
- 5) **Al Hikma Pharmaceuticals industry scholarship (Oct/2012-Mar/2016).**
- 6) **Campus France Scholarship (Oct/2012-Mar/2016).**

Publications

Publication	IF
1. The COVID-19 Host Genetics Initiative. A second update on mapping the human genetic architecture of COVID-19. <i>Nature</i> 621, E7–E26 (2023). https://doi.org/10.1038/s41586-023-06355-3 .	64.8
2. Fedaa Adaileh, Walhan Alshaer , Hamdi Nsairat, Dana A. Alqudah, Suha Wehaibi, Fadwa Daoud, Rula Al-Buqain, Shrouq Alsotari, Abeer Al Bawab, Fadwa Odeh. Curcumin-loaded γ -cyclodextrin-grafted hyaluronic acid nanoassemblies: In vitro investigation of anti-proliferative, wound healing, and anti-inflammatory potential. <i>Journal of Drug Delivery Science and Technology</i> , 2023; 104886.	5.0
3. Hamdi Nsairat, Abed Alqader Ibrahim, Areej M. Jaber, Shareif Abdelghany, Randa Atwan, Naeem Shalan, Hiba Tarek, Fadwa Odeh, Mohamed El-Tanani, Walhan Alshaer . Liposome bilayer stability: Emphasis on cholesterol and its alternatives. <i>Journal of Liposome Research</i> , 2023, in press.	5.6
4. Abuarqoub D, Mahmoud N, Alshaer W, Mohammad M, Ibrahim AA, Al-Mrahleh M, Alnatour M, Alqudah DA, Esawi E, Awidi A. Biological Performance of Primary Dental Pulp Stem Cells Treated with Gold Nanoparticles. <i>Biomedicines</i> . 2023; 11(9):2490. https://doi.org/10.3390/biomedicines11092490	4.7
5. Mohamed El-Tanani, Angela Platt-Higgins, Hamdi Nsairat, Ismail I. Matalka, Khaled Abdul-Aziz Ahmed, Shu-Dong Zhang, Walhan Alshaer , Abdalla Awidi, Kyle B. Matchett, Alaa A. Aljabali, Vijay Mishra, Ángel Serrano-Aroca, Murtaza M. Tambuwala, Philip S. Rudland. Development and validation of Ran as a prognostic marker in stage I and stage II primary breast cancer. <i>Life Sciences</i> 2023, 121964.	6.1
6. Alaaldin Alkilany, Amit Kunwar, Jyotsnendu Giri, Walhan Alshaer , Abdelbary Elhissi. The editorial on the Research Topic: Anti-Cancer Drug Delivery: Lipid-Based Nanoparticles. <i>Frontiers in Oncology</i> , 2023, (Editorial) in press.	4.7
7. Ali Al-Samydai, Moath Al Qaraleh, Khaldun M. Al Azzam, Amal Mayyas, Hamdi Nsairat, Maha N. Abu Hajleh, Lidia K. Al-Halaseh, Nehaya Al-Karablieh, Amal Akour, Fatima Alshaik, Walhan Alshaer . Formulating Co-loaded Nanoliposomes with Gallic acid and Quercetin for Enhanced Cancer Therapy. <i>Heliyon</i> , 2023, in press.	3.8
8. Lafi Z, Alshaer W, Gharaibeh L, Alqudah DA, AlQuaissi B, Bashaireh B, et al. Synergistic combination of doxorubicin with hydralazine, and disulfiram against MCF-7 breast cancer cell line. <i>PLoS ONE</i> . 2023, 18(9): e0291981. https://doi.org/10.1371/journal.pone.0291981 .	3.7
9. Tabarek H Mahmood, Hamdi Nsairat, Ali Al-Samydai, Mazen Al Sulaibi, Moath Alqaraleh, Anas Ibrahim Abed, Naeem Shalan, Alaa Alsanabrah, Shrouq Taiseer Alsotari, Walhan Alshaer . Development of Pegylated Nano-Phytosome Formulation with Oleuropein and Rutin to compare Anti-Colonic Cancer. <i>Chemistry & Biodiversity</i> . 2023; in press.	2.9
10. Hamdi Nsairat, Mazen Al-Sulaibi, Walhan Alshaer . PEGylated nanoassemblies composed of edelfosine and fulvestrant drugs: In vitro antiproliferative effect against breast cancer cells. <i>Journal of Drug Delivery Science and Technology</i> 2023, 104612.	5.1
11. Noorin Manhal Al-Ekaid, Ali M. Al-Samydai, Ibrahim Al-deeb, Hamdi Nsairat, Khaled Khleifat, Walhan Alshaer . Preparation, Characterization, and Anticancer Activity of PEGylated Nano liposomal Loaded with Rutin against Human Carcinoma Cells (HT-29). <i>Chemistry & Biodiversity</i> , 2023, e202301167. In press.	2.9

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12. Hamdi Nsairat, Zainab Lafi, Mazen Al-Sulaibi, Lobna Gharaibeh, **Walhan Alshaer**. Impact of Nanotechnology on the Oral Delivery of Phyto-bioactive Compounds. *Food Chemistry* 2023, 136438. **9.2**
13. Esawi, Ezaldeen; Mahmoud, Ismail; Abdullah, Mohammad; Abu Arqoub, Duaa; Ahram, Mamoun ; **Alshaer, Walhan**. 1,4-Naphthoquinone Induces FcRn Protein Expression and Albumin Recycling in Human THP1 Cells. *ACS Omega*. 2023. **4.1**
14. Mohamed El-Tanani; Hamdi Nsairat; Alaa A. Aljabali; Ángel Serrano-Aroca-Angel; Vijay Mishra; Yachana Mishra; Gowhar A Naikoo; **Walhan Alshaer**, Murtaza Tambuwala . Role of Mammalian Target of Rapamycin (mTOR) Signalling in Oncogenesis. *Life Sciences*. 2023; in press. **6.1**
15. Abdulfattah Al-Kadash, **Walhan Alshaer**, Ismail Sami Mahmoud, Suha Wehaibi, Malek Zihlif1 Enhancing Chemosensitivity of PANC1 Pancreatic Cancer Cells to Gemcitabine Using ANGTPL4, Notch1 and NF- κ B1 siRNAs. *Future Science OA*. 2023. In press. **2.5**
16. **Alshaer, W.**; Nsairat, H.; Lafi, Z.; Hourani, O.M.; Al-Kadash, A.; Esawi, E.; Alkilany, A.M. Quality by Design Approach in Liposomal Formulations: Robust Product Development. *Molecules* 2023, 28, 10. **4.9**
17. Mais M Saleh, Raghad Abuhamdan, **Walhan Alshaer**, Marzouq N. Amarin, Hiba Abdelnabi, Maram Abdeljaleel, Kholoud Frieht, Salah Aljamal, Samer M. Najjar, Saja H Hamed, Cosmeceutical Formulations of Pro-Vitamin E Phosphate: In-vitro Release Testing and Dermal Penetration into Excised Human Skin. *International Journal of Pharmaceutics* 2023, 122781. **6.5**
18. Hamdi Nsairat, Walhan Alshaer, Zainab Lafi, Somaya Ahmad, Alaa Al-Sanabrah, Mohamed El-Tanani. Development and Validation of RP-HPLC Method for Simultaneous Quantification of Fulvestrant and Disulfiram in liposomes. *Bioanalysis*. 2023, in press. **1.8**
19. Hamdi Nsairat, **Walhan Alshaer**, Fadwa Odeh, Ezzaldeen Essawi, Dima Khater, Abeer Al Bawab, Mohamed El-Tanani, Abdalla Awidi, Mohammad S. Mubarak. Recent Advances in Using Liposomes for Delivery of Nucleic Acid-Based Therapeutics. *OpenNano* 2023; 100132. **SCOPUS Q2**
20. Zainab Lafia, Lobna Gharaibeha, Hamdi Nsairat, Nisreen Asha, Walhan Alshaer. Aptasensors : Employing Molecular Probes for Precise Medical Diagnostics and Drug Monitoring. *Bioanalysis*, 2023, in press. **1.8**
21. Jaradat NJ, **Alshaer W**, Hatmal M, Taha MO. Discovery of new STAT3 inhibitors as anticancer agents using ligand-receptor contact fingerprints and docking-augmented machine learning. *RSC advances*. 2023;13(7):4623-40. **4.0**
22. Rand Alquraishi, Ali Al-samydai, Khaldun M. Al Azzam, Moath Alqaraleh, Lidia Al-Halaseh, Alaa Sanabrah, Maha N. Abu Hajleh, Arwa Al Khatib, Walhan Alsaheer, El-Sayed Negim, Khaled Khleifat. Preparation, Characterization and Wound Healing Effect of PEGylated Nano-liposomes Loaded with Oleuropein. *Biomedical Chromatography*. 2023. **1.8**
23. Wala'a Al. Safadi, Belal Omar Al-Najjar, MoathAlqaraleh, Ibrahim Abed Anas, **Walhan Alshaer**, Dana Alqudah, Fadwa Daoud, Razan Mohammad Obeidat, Obada Abdulmalek Sibai, Zainab Zaki Zakaraya. Telmisartan Enhances the Accumulation of Doxorubicin as a Combination Therapy for the Management of Triple Negative Breast Cancer. *Jordan Journal of Biological Sciences*; 16(3): 529 – 536. <https://doi.org/10.54319/jjbs/160315> **SCOPUS Q2**

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| 24. Zainab Lafi, Walhan Alshaer , Abdullah Awidi, Malek , Mamon Hatmal, Hiba Abdelnabi. Echinomycin: A journey of challenges and future insights. Jordan Journal of Pharmaceutical Sciences 2023. Accepted. | SCOPUS
Q3 |
| 25. Hamdi Nsairat, Dima Khater, Fadwa Odeh, Areej M. Jaber, Mazen A.M. Al Sulaibi, Walhan Alshaer , Abeer Al Bawab, Mohammad S. Mubarak. Phytosomes: a modernistic approach to the delivery of herbal drugs. Book: Advanced and Modern Approaches for Drug Delivery. 2023, V1(p301-356). Elsevier. | Book
chapter
(Elsevier) |
| 26. Al-Samydai, A.; Qaraleh, M.A.; Alshaer, W. ; Al-Halaseh, L.K.; Issa, R.; Alshaikh, F.; Abu-Rumman, A.; Al-Ali, H.; Al-Dujaili, E.A.S. Preparation, Characterization, Wound Healing, and Cytotoxicity Assay of PEGylated Nanophytosomes Loaded with 6-Gingerol. <i>Nutrients</i> 2022, <i>14</i> , 5170 . | 6.7 |
| 27. Shawish I, Nafie MS, Barakat A, Aldalbahi A, Al-Rasheed HH, Ali M, Alshaer W , Al Zoubi M, Al Ayoubi S, De la Torre BG, Albericio F and El-Faham A. Pyrazolyl-s-triazine with indole motif as a novel of epidermal growth factor receptor/cyclindependent kinase 2 dual inhibitors. <i>Front. Chem</i> (2022). | 5.5 |
| 28. Shawish I, Barakat A, Aldalbahi A, Alshaer W , Daoud F, Alqudah DA, et al. Acetic Acid Mediated for One-Pot Synthesis of Novel Pyrazolyl s-Triazine Derivatives for the Targeted Therapy of Triple-Negative Breast Tumor Cells (MDA-MB-231) via EGFR/PI3K/AKT/mTOR Signaling Cascades. <i>Pharmaceutics</i> . 2022;17(8):1558. | 6.5 |
| 29. Aseel Al-Shwaheen, Alaa A. A. Aljabali, Ghada Alomari, Mazhar Al Zoubi, Walhan Alshaer , Bahaa Al-Trad, Murtaza M. Tambuwala. Molecular and Cellular Effects of Gold Nanoparticles Treatment in Experimental Diabetic Myopathy. <i>Heliyon</i> . 2022; in press. | 3.8 |
| 30. Duaa Abuarqoub, Nazneen Aslam, Rand Zaza, Hanan Jafar, Suzan Zalloum, renata atom, Walhan Alshaer , Mairvat AL-Mrahleh, abdalla awidi. The immunomodulatory and regenerative effect of Biodentine™ on human THP-1 cells and dental pulp stem cells; in vitro study. <i>BioMed Research International</i> . 2022 accepted. | 3.2 |
| 31. Sharif Abdelghan, Alshaer W , Yazan Al Thaher, Maram Al Fawares, Amal G. Al-Bakri, Saja Zuriekat, Randa SH. Mansour. Ciprofloxacin-loaded dissolving polymeric microneedles as a potential therapeutic for the treatment of S. aureus skin infections. <i>Beilstein Journal of Nanotechnology</i> . 2022;13:517–27. | 3.7 |
| 32. Assali M, Kittana N, Alhaj-Qasem S, Hajjyahya M, Abu-Rass H, Alshaer W , et al. Noncovalent functionalization of carbon nanotubes as a scaffold for tissue engineering. <i>Scientific Reports</i> . 2022;12(12062). | 5.0 |
| 33. Nsairat H, Khater D, Sayed U, Odeh F, Al Bawab A, Alshaer W . Liposomes: structure, composition, types, and clinical applications. <i>Heliyon</i> . 2022;8(5):e09394. | 3.8 |
| 34. Al-Shboul TMA, El-khateeb M, Obeidat ZH, Ababneh TS, Al-Tarawneh SS, Zoubi MSA, et al. Synthesis, Characterization, Computational and Biological Activity of Some Schiff Bases and Their Fe, Cu and Zn Complexes. <i>Inorganics</i> . 2022;10(8):112. | 3.4 |
| 35. Al-Azzawi H, Alshaer W , Esawi E, Lafi Z, Abuarqoub D, Zaza R, et al. Multifunctional nanoparticles recruiting hyaluronic acid ligand and polyplexes containing low molecular weight protamine and ATP-Sensitive DNA motif for doxorubicin delivery. <i>Journal of Drug Delivery Science and Technology</i> . 2022, 69;e103169. | 5.1 |

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36. Ayyoub S, Al-Trad B, Aljabali AAA, **Alshaer W**, Al Zoubi M, Omari S, et al. Biosynthesis of gold nanoparticles using leaf extract of *Dittrichia viscosa* and in vivo assessment of its anti-diabetic efficacy. *Drug Delivery and Translational Research*. 2022. **5.7**
37. Nour M. Obeidat¹, Malek A. Zihlif, Dana A. Alqudah, **Walhan Alshaer**, Shtaywy S. Abdalla. Effects of cyclic Acute and Chronic Hypoxia on Expression Level of Metabolism Related Genes in a Pancreatic Cancer Cell Line. *Biomedical Reports*, 2022, accepted. **2.3**
38. Mohammad A. I. Al-Hatamleh, **Walhan Alshaer**, Ma'mon M. Hatmal, Lidawani Lambuk, Naveed Ahmed, Mohd Zulkifli Mustafa, Siew Chun Low, Juhana Jaafar, Khalid Ferji, Jean-Luc Six, Vuk Uskokovic and Rohimah Mohamud. Applications of Alginate-Based Nanomaterials in Enhancing the Therapeutic Effects of Bee Products. *Frontiers in Molecular Biosciences*. 2022, 9: 865833. **6.1**
39. Hatmal, M.M.; Al-Hatamleh, M.A.I.; Olaimat, A.N.; **Alshaer, W.**; Hasan, H.; Albakri, K.A.; Alkhafaji, E.; Issa, N.N.; Al-Holy, M.A.; Abderrahman, S.M.; Abdallah, A.M.; Mohamud, R. Immunomodulatory Properties of Human Breast Milk: MicroRNA Contents and Potential Epigenetic Effects. *Biomedicines* 2022, 10, 1219. **4.8**
40. Alaa A. A. Aljabali, Mohammad A Obeid, Hamid A Bakshi, **Walhan Alshaer**, Raed M Ennab, Bahaa Al-Trad, Wesam Al Khateeb, Khalid M. Al-Batayneh, Abdulfattah Al-Kadash, Shrouq Alstotari, Hamdi Nsairat, Murtaza M. Tambuwala. Synthesis, Characterization and assessment of anti-cancer potential of ZnO Nanoparticles in in-vitro model of Breast Cancer. *Molecules* (Basel, Switzerland). 2022, 27(6); 1827. **4.9**
41. Tbakhi BA, Nsairat H, **Alshaer W**, Al-Kadash A, Helal W, Alrawashdeh L, et al. Cinnamaldehyde–cucurbituril complex: investigation of loading efficiency and its role in enhancing cinnamaldehyde in vitro anti-tumor activity. *RSC Advances*. 2022;12(12):7540-9. **4.0**
42. Odeh F, Adaileh F, **Alshaer W**, Nsairat H, Alqudah DA, Jaber AM, et al. Synthesis of Mono-Amino Substituted γ -CD: Host–Guest Complexation and In Vitro Cytotoxicity Investigation. *Molecules* (Basel, Switzerland). 2022;27(5):1683. **4.9**
43. Lubna Alrawashdeh, Khaleel I. Assaf, **Walhan Alshaer**, Fadwa Odeh, Suhair A. Bani-Atta. Preparation, characterization, and biological activity study of thymoquinone-cucurbit[7]uril inclusion complex. *RSC Advances*, (2022), 12(4); 1982-1988. **4.0**
44. Ezaldeen Esawi, Hamdi Nsairat, Ismail Sami Mahmoud, Zainab Lafi, Abdulfattah Al-Kadash, Bayan Abu Al-Ragheb, Said I. Ismail, **Walhan Alshaer**. Clinical use and future perspective of aptamers. Book: *Aptamers Engineered Nanocarriers for Cancer Therapy*. V1(p481-520). Elsevier **Book chapter**
45. Mohammad A.I. Al-Hatamleh, Mai A. Abusalah, Ma'mon M. Hatmal, **Walhan Alshaer**, Suhana Ahmad, Manali H. Mohd-Zahid, Engku Nur Syafirah E.A. Rahman, Chan Y. Yean, Iskandar Z. Alias, Vuk Uskoković, Rohimah Mohamud, Understanding the challenges to COVID-19 vaccines and treatment options, herd immunity and probability of reinfection, *Journal of Taibah University Medical Sciences*. 2022, in press **2.2**
46. Hamdi Nsairat, Walhan Alshaer, Ismail Sami Mahmoud, Mohammad A Ismail, Ezaldeen Esawi, Shrouq Alstotari, Said I. Ismail. Aptamers in Theranostic Bionanomaterials, *Bionanotechnology: Next-Generation Therapeutic Tools* (2022) 1: 130. **Book chapter**

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47. Suhair Sunoqrot, Bayan Orainee, Dana A. Alqudah, Fadwa Daoud, and **Walhan Alshaer**. Curcumin-Tannic Acid-Poloxamer Nanoassemblies Enhance Curcumin's Uptake and Bioactivity against Cancer Cells In Vitro. *International Journal of Pharmaceutics*, 610: e121255 (2021). **6.5**
48. Suhana Ahmad, Ma'mon M. Hatmal, Lidawani Lambuk, Mohammad A. I. Al-Hatamleh, **Walhan Alshaer**, Rohimah Mohamud. The role of TNFR2+ Tregs in COVID-19: An overview and a potential therapeutic strategy. *Life Sciences*. (2021). **6.8**
49. Hatmal MM, **Alshaer W**, Mahmoud IS, Al-Hatamleh MAI, Al-Ameer HJ, Abuyaman O, et al. (2021) Investigating the association of *CD36* gene polymorphisms (rs1761667 and rs1527483) with T2DM and dyslipidemia: Statistical analysis, machine learning based prediction, and meta-analysis. *PLoS ONE* 16(10): e0257857 **3.8**
50. Ismail Mahmoud, Ma'mon Hatmal, duaa abuarqoub, Ezaldeen Esawi, hiba zalloum, suha Wehaibi, Hamdi Nsairat, **Walhan Alshaer**. 1,4-Napthoquinone is a Potent Inhibitor of IRAK1 Kinases and Inflammatory Cytokines Production in THP-1 Differentiated Macrophages. *ACS Omega*. (2021), In press. **4.1**
51. Hamdi Nsairat, Dima Khater, Fadwa Odeh, Fedaa Al-Adaileh, Suma Al-Taher, Areej M. Jaber, **Walhan Alshaer**, Abeer Al Bawab, Mohammad S. Mubarak. Lipid nanostructures for targeting brain cancer. *Heliyon*. (2021) In press. **3.8**
52. Lafi Z, **Alshaer W**, Hatmal MmM, Zihlif M, Alqudah DA, Nsairat H, et al. Aptamer-functionalized pH-sensitive liposomes for a selective delivery of echinomycin into cancer cells. *RSC Advances*. 2021;11(47):29164-77. **4.0**
53. Alaa A. A. Aljabali, Khaled I. Seetan, **Walhan Alshaer**, Ejlal Abu-El-Rub, Mohammad A. Obeid, Dua Kamal, Murtaza M. Tambuwala. Stem Cell-Based Products in the Market. *Stem Cell Biology and Regenerative Medicine, Humana, Cham/springer*. (2021). **Book chapter**
54. Lobna Gharaibeh, **Walhan Alshaer**, Suha Wehaibi, Rula Al Buqain, Dana A.Alqudah, Abdulfattah Al-Kadash, Hafsa Al-Azzawi, Abdalla Awidi, Yasser Bustanji. Fabrication of aptamer-guided siRNA loaded lipopolyplexes for gene silencing of notch 1 in MDA-MB-231 triple negative breast cancer cell line. *Journal of Drug Delivery Science and Technology*. (2021): 65:102733, 10.1016/j.jddst.2021.102733. **5.1**
55. **W. Alshaer**, H. Zureigat, A. Al Karaki, A. Al-Kadash, L. Gharaibeh, M.M. Hatmal, A.A.A. Aljabali, A. Awidi, siRNA: Mechanism of action, challenges, and therapeutic approaches, *European Journal of Pharmacology*, 905 (2021), 10.1016/j.ejphar.2021.174178. **5.2**
56. N. Aslam, E. Abusharieh, D. Abuarqoub, D. Ali, D. Al-Hattab, S. Wehaibi, B. Al-Kurdi, F. Jamali, **W. Alshaer**, H. Jafar, A.S. Awidi, Anti-oncogenic activities exhibited by paracrine factors of MSCs can be mediated by modulation of KITLG and DKK1 genes in glioma SCs in vitro, *Molecular Therapy - Oncolytics*, 20 (2021), pp.147-165, 10.1016/j.omto.2020.11.005. **7.2**
57. N. Sweidan, E. Esawi, M. Ismail, **W. Alshaer**, Anticancer Cardenolides from the aerial parts of *Calortopis procera*. *Zeitschrift fur Naturforschung - Section C Journal of Biosciences*, 76 (2021), pp.243-250, 10.1515/znc-2020-0281. **1.9**
58. D. Khater, H. Nsairat, F. Odeh, M. Saleh, A. Jaber, **W. Alshaer**, A. Al Bawab, M.S. Mubarak, Design, preparation, and characterization of effective dermal and transdermal lipid nanoparticles: A review, *Cosmetics*, 8 (2021), 10.3390/cosmetics8020039. **3.3**

59. M. Khamees, Y. Jarrar, T. Al-Qirim, I.S. Mahmoud, M.M. Hatmal, **W. Alshaer**, S.J. Lee, No impact of soluble epoxide hydrolase rs4149243, rs2234914 and rs751142 genetic variants on the development of type II diabetes and its hypertensive complication among Jordanian patients, *International Journal of Clinical Practice*, 75 (2021), 10.1111/ijcp.14036. **3.1**
60. N. Aslam, E. Abusharieh, D. Abuarqoub, D. Alhattab, H. Jafar, **W. Alshaer**, R.J. Masad, A.S. Awidi, An In Vitro Comparison of Anti-Tumoral Potential of Wharton's Jelly and Bone Marrow Mesenchymal Stem Cells Exhibited by Cell Cycle Arrest in Glioma Cells (U87MG), *Pathology and Oncology Research*, 27 (2021), 10.3389/pore.2021.584710. **2.9**
61. G. Alomari, B. Al-Trad, S. Hamdan, A.A.A. Aljabali, M.S. Al Zoubi, K. Al-Batanyeh, J. Qar, G.J. Eaton, A.K. Alkaraki, **W. Alshaer**, S. Haifawi, K. Jemon, D.K. Chellappan, K. Dua, M.M. Tambuwala, Alleviation of diabetic nephropathy by zinc oxide nanoparticles in streptozotocin-induced type 1 diabetes in rats, *IET Nanobiotechnology*, 15 (2021), pp.473-483, 10.1049/nbt2.12026. **2.1**
62. A.A.A. Aljabali, B. Al-Trad, L.A. Gazo, G. Alomari, M. Al Zoubi, **W. Alshaer**, K. Al-Batayneh, B. Kanan, K. Pal, M.M. Tambuwala, Gold Nanoparticles Ameliorate Diabetic Cardiomyopathy in Streptozotocin-Induced Diabetic Rats, *Journal of Molecular Structure*, 1231 (2021), 10.1016/j.molstruc.2021.130009. **3.8**
63. M.A.I. Al-Hatamleh, M.M. Hatmal, **W. Alshaer**, E.N.S.E.A. Rahman, M.H. Mohd-Zahid, D.M. Alhaj-Qasem, C.Y. Yean, I.Z. Alias, J. Jaafar, K. Ferji, J.L. Six, V. Uskoković, H. Yabu, R. Mohamud, COVID-19 infection and nanomedicine applications for development of vaccines and therapeutics: An overview and future perspectives based on polymersomes, *European Journal of Pharmacology*, 896 (2021), 10.1016/j.ejphar.2021.173930. **5.2**
64. H. Abdelnabi, **W. Alshaer**, H. Azzam, D. Alqudah, A. Al-Samydai, T. Aburjai, Loading of capsaicin-in-cyclodextrin inclusion complexes into PEGylated liposomes and the inhibitory effect on IL-8 production by MDA-MB-231 and A549 cancer cell lines, *Zeitschrift fur Naturforschung - Section C Journal of Biosciences*, 10.1515/znc-2021-0018 (2021), 10.1515/znc-2021-0018. **1.9**
65. M.A. Obeid, A.A. Aljabali, **W. Alshaer**, N.B. Charbe, D.K. Chellappan, K. Dua, S. Satija, M.M. Tambuwala, Targeting siRNAs in cancer drug delivery. *Advanced Drug Delivery Systems in the Management of Cancer*, Elsevier 2021, pp. 447-460. **Book chapter**
66. Manar Zraikat, **Walhan Alshaer**, Tasneem Alshelleh, Ahmed M Sada Alhanjori, Diala Walid Abu-Hassan, Ghada O Tuffaha, Mutasem Taha. Study of the effects of NCI667916 and NCI201725 on the invasion and migration of U87 cell line. *Annals of the Romanian Society for Cell Biology*, 25 (2021), pp.20494–20509. **NA**
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68. F. Odeh, H. Nsairat, **W. Alshaer**, M.A. Ismail, E. Esawi, B. Qaqish, A. Bawab, S.I. Ismail, Aptamers chemistry: Chemical modifications and conjugation strategies, *Molecules*, 25 (2020), 10.3390/molecules25010003. **4.9**
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70. A.A. Aljabali, L. Alzoubi, Y. Hamzat, A. Alqudah, M.A. Obeid, M.S. Al Zoubi, R.M. Ennab, **W. Alshaer**, K. Albatayneh, B. Al-Trad, An potential MRI agent and an anticancer drug encapsulated within CPMV virus-like particles. *Combinatorial chemistry & high throughput screening*, (2020). **1.7**
71. F.S. Mustafa, G. Şanlıtürk, M. Güran, F. Odeh, **W. Alshaer**, R.A. Buqain, M. Gazi, Fabrication of a novel nontoxic trichlorophenol-epichlorohydrin-based compound with high antimicrobial activity and thermal stability, *Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering*, 55 (2020), pp.1469-1474, 10.1080/10934529.2020.1806633. **2.6**
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73. M.M. Hatmal, **W. Alshaer**, M.A.I. Al-Hatamleh, M. Hatmal, O. Smadi, M.O. Taha, A.J. Oweida, J.C. Boer, R. Mohamud, M. Plebanski, Comprehensive Structural and Molecular Comparison of Spike Proteins of SARS-CoV-2, SARS-CoV and MERS-CoV, and Their Interactions with ACE2, *Cells*, 9 (2020), 10.3390/cells9122638. **7.7**
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75. L. Gharaibeh, N. Elmadany, K. Alwosaibai, **W. Alshaer**, Notch1 in cancer therapy: Possible clinical implications and challenges, *Molecular Pharmacology*, 98 (2020), pp.559-576, 10.1124/MOLPHARM.120.000006. **4.1**
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79. F. Odeh, H. Nsairat, **W. Alshaer**, S. Alsotari, R. Buqaien, S. Ismail, A. Awidi, A. Al Bawab, Remote loading of curcumin-in-modified β -cyclodextrins into liposomes using a transmembrane pH gradient, *RSC Advances*, 9 (2019), pp.37148-37161, 10.1039/c9ra07560g. **4.0**
80. F. Odeh, R. Naffa, H. Azzam, I.S. Mahmoud, **W. Alshaer**, A. Al Bawab, S. Ismail, Co-encapsulation of thymoquinone with docetaxel enhances the encapsulation efficiency into PEGylated liposomes and the chemosensitivity of MCF7 breast cancer cells to docetaxel, *Heliyon*, 5 (2019), 10.1016/j.heliyon.2019.e02919. **3.8**

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82. **W. Alshaer**, M. Zraikat, A. Amer, H. Nsairat, Z. Lafi, D.A. Alqudah, E. Al Qadi, T. Alsheleh, F. Odeh, A. Alkaraki, M. Zihlif, Y. Bustanji, E. Fattal, A. Awidi, Encapsulation of echinomycin in cyclodextrin inclusion complexes into liposomes: In vitro anti-proliferative and anti-invasive activity in glioblastoma, *RSC Advances*, 9 (2019), pp.30976-30988, 10.1039/c9ra05636j. **4.0**
83. **W. Alshaer**, D.A. Alqudah, S. Wehaibi, D. Abuarqoub, M. Zihlif, M.M. Hatmal, A. Awidi, Downregulation of STAT3, β -catenin, and notch-1 by single and combinations of siRNA treatment enhance chemosensitivity of wild type and doxorubicin resistant MCF7 breast cancer cells to doxorubicin, *International Journal of Molecular Sciences*, 20 (2019), 10.3390/ijms20153696. **6.2**
84. A. Al-Samydai, T. Aburjai, **W. Alshaer**, H. Azzam, F. Al-Mamoori, Qualitative and quantitative analysis of capsaicin from capsicum annum grown in Jordan, *International Journal of Research in Pharmaceutical Sciences*, 10 (2019), pp.3768-3774, 10.26452/ijrps.v10i4.1767. **Q2**
85. A.A.A. Aljabali, M.S. Al Zoubi, K.M. Al-Batanyeh, A. Al-Radaideh, M.A. Obeid, A. Al Sharabi, **W. Alshaer**, B. AbuFares, T. Al-Zanati, M.M. Tambuwala, N. Akbar, D.J. Evans, Gold-coated plant virus as computed tomography imaging contrast agent, *Beilstein Journal of Nanotechnology*, 10 (2019), pp.1983-1993, 10.3762/bjnano.10.195. **3.7**
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87. F. Sauvage, E. Fattal, **W. Al-Shaer**, S. Denis, E. Brotin, C. Denoyelle, C. Blanc-Fournier, B. Toussaint, S. Messaoudi, M. Alami, G. Barratt, J. Vergnaud-Gauduchon, Antitumor activity of nanoliposomes encapsulating the novobiocin analog 6BrCaQ in a triple-negative breast cancer model in mice, *Cancer Letters*, 432 (2018), pp.103-111, 10.1016/j.canlet.2018.06.001. **9.8**
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89. **W. Alshaer**, H. Hillaireau, J. Vergnaud, S. Mura, C. Deloménie, F. Sauvage, S. Ismail, E. Fattal, Aptamer-guided siRNA-loaded nanomedicines for systemic gene silencing in CD-44 expressing murine triple-negative breast cancer model, *Journal of Controlled Release*, 271 (2018), pp.98-106, 10.1016/j.jconrel.2017.12.022. **11.5**
90. **W. Alshaer**, H. Hillaireau, E. Fattal, Aptamer-guided nanomedicines for anticancer drug delivery, *Advanced Drug Delivery Reviews*, 134 (2018), pp.122-137, 10.1016/j.addr.2018.09.011. **17.9**
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92. **W. Alshaer**, N. Ababneh, M. Hatmal, H. Izmirli, M. Choukeife, A. Shraim, N. Sharar, A. Abu-Shiekhah, F. Odeh, A.A. Bawab, A. Awidi, S. Ismail, Selection and targeting of EpCAM protein by ssDNA aptamer, PLoS ONE, 12 (2017), 10.1371/journal.pone.0189558. **3.8**
93. **W. Alshaer**, H. Hillaireau, J. Vergnaud, S. Ismail, E. Fattal, Functionalizing Liposomes with anti-CD44 Aptamer for Selective Targeting of Cancer Cells, Bioconjugate Chemistry, 26 (2015), pp.1307-1313, 10.1021/bc5004313. **6.1**
94. N. Ababneh, **W. Alshaer**, O. Allozi, A. Mahafzah, M. El-Khateeb, H. Hillaireau, M. Noiray, E. Fattal, S. Ismail, In vitro selection of modified RNA aptamers against CD44 cancer stem cell marker, Nucleic Acid Therapeutics, 23 (2013), pp.401-407, 10.1089/nat.2013.0423. **4.2**
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96. ISMAIL, S., TAHA, M. & ALSHAER, W. 2010. Aptamers as Jak2 Kinase Inhibitors. National patent (# 2535). **PATENT**

Thesis supervisor: Postgraduate students

a. Graduated

I. MSc students

1. Student name: Amer Amer. Graduated (Dec/2018) Supervisors: Prof. Yaser bustanji, **Dr. Walhan Alshaer** (Co-supervisor). Department of Biopharmaceutics and Clinical Pharmacy/Faculty of pharmacy/The University of Jordan. Thesis title "Antitumor activity of nanoliposomes encapsulating Echinomycin".
2. Student name: Arwa Alkaraki. Graduated (Apr/2019) Supervisor: **Dr. Walhan Alshaer** (main supervisor). Department of Pharmacology /Faculty of Medicine/The University of Jordan. Thesis title "Enhancing the therapeutic efficacy and potency of chemotherapeutics by silencing of genes involved in multidrug resistance mechanism".
3. Student name: Student name: Abdulfattah Al-Kadash. Graduated (Dec/2019) Supervisor: **Dr. Walhan Alshaer** (main supervisor). Department of Pharmacology /Faculty of Medicine/The University of Jordan. Thesis title "Anti-Tumor Activity of Single and Combinatorial siRNA Through Silencing Oncogenes Involved in Pancreatic Cancer: Therapeutic Approach".
4. Student name: Student name: Hafsa Al-Azzawi. Graduated (Dec/2019) Supervisors: **Dr. Walhan Alshaer**, Prof. Abdalla Saleh Awidi and Dr. Belal Azab. Department of Pathology and Microbiology and Forensic Medicine/Faculty of Medicine/The University of Jordan. Thesis title "Developing nanoparticles for intracellular delivery of aptamers into cells".
5. Student name: Ahmed Sadaalhanjori. Graduated (Feb/2020) Supervisors: Prf. Malek Zihlif, **Dr. Walhan Alshaer** (Co-Supervisor). Department of Pharmacology/Faculty of Medicine/The University of Jordan. Thesis title "Studying Antitumor Effects of siRNA Gene Silencing of Some Metabolic Genes in Pancreatic Cancer".

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6. Student name: Hiba Tarek graduated (December/2020) Supervisors: Prf. Talal Aburjai, **Dr. Walhan Alshaer** (Co-Supervisor). Department of Pharmaceutical sciences/Faculty of Pharmacy/The University of Jordan. Thesis title "Encapsulation of Capsaicin-in-cyclodextrin inclusion complexes into liposomes: in vitro anti-inflammatory potential against cancer cells"
7. Student name: Mohammad Ismail. Graduated (May/2021) Supervisors: **Dr. Walhan Alshaer**, and Dr. Belal Azab. Department of Pathology and Microbiology and Forensic Medicine/Faculty of Medicine/The University of Jordan. Thesis title "Development Of Lipopolyplex-Based Nanocarriers For Targeted Gene Delivery Purposes".
8. Student name: EzAldeen Alessawi. Graduated (August/2021) Supervisors: **Dr. Walhan Alshaer**, and Dr. Belal Azab. Department of Department of Pathology and Microbiology and Forensic Medicine/Faculty of Medicine/The University of Jordan. Thesis title "Targeted Delivery Of Adenosine Triphosphohate Atp- Aptamer For Controlled Release Of Doxorubicin Into Cancer Cells Using As1411 Aptamer".
9. Student name: Sumaay Naser. Graduated (December/2021); Supervisors: **Dr. Walhan Alshaer**, and Dr. Fadwa Odeh. Department of Chemistry/Faculty of Science/The University of Jordan. Thesis title "Effect of Cucurbiturils on Phosphatidylcholine Lipid Bilayer: A Study of the Stability and Interactions with Liposomes".
10. Student name: Tasneem Sartawee. Graduated (December/2021); Supervisors: **Dr. Walhan Alshaer** (main-Supervisor). Department of Biology/Faculty of Science/The University of Jordan. Thesis title "In Vitro Cellular Interaction Of Drug-Loaded Liposomes With 2d And 3d Cell Culture Of U87-Mg Cell Line".
11. Student name: Aseel Mohammad Al-Diqs. Graduated (Jan/2022) Supervisors: **Dr. Walhan Alshaer**, and Prof. Dr. Mohammed Al-Tanani. Department of Pharmaceutical Science/Faculty Of Pharmacy/Al-Ahliyya Amman University. Thesis title "Developing a Nanodelivery System of Pimozide as an Effective Anticancer Agent: Physicochemical Characterization and Biological activity."
12. Student name: Dalya Abdulghafoor Saidi. Graduated (Jan/2022). Supervisors: **Dr. Walhan Alshaer**, and Dr. Marya Obeidat. . Department of Medical Laboratory Sciences/Faculty of Applied Medical Sciences/ Jordan University of Science and Technology. Thesis title "Investigating the Efficacy of Lyophilized AS1411- Gold Nanosphere Conjugated Aptamer in Breast Cancer".
13. Student name: Toqa Ayman Almmaitah. Graduated (Aug /2022). Supervisors: **Dr. Walhan Alshaer**, and Dr. Khawla Al-Hamaideh. Department of Medical Laboratory Sciences/Faculty of Applied Medical Sciences/ Al-Balqa' Applied University. Thesis title "In Vitro Study of the Inflammatory Potential of Nanoliposomes in the THP-1 Macrophage Model".
14. Student name: Tasneem Alaa Ryal. Graduated (May/2023). Supervisors: **Dr. Hatem Alkhateeb**, and Dr. Walhan ALSHAER. Department of Pharmaceutical Sciences/Faculty of Pharmacy/The University of Jordan. Thesis title "Evaluation of tissue permeation and cellular uptake of vitamin C solid formulated in oil in water nano-emulsions".
15. Student name: Basma Ateeq Abu msafer. Graduated (Jun/2023) Supervisors: **Dr. Walhan Alshaer**, and Prof. Manal A. Abbas. Department of Medical Laboratory Sciences/Faculty Of Pharmacy/Al-Ahliyya Amman University. Thesis title "Effect of Palbociclib on expression of platelets activation marker "CD62P" after co-culture with breast cancer cells."

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16. Student name: Shrouq Fajer Zaki Twal. Graduated (August/2023) Supervisors: and Prof. Mayyas Al-Remawi and **Dr. Walhan Alshaer**. Department of Pharmaceutical Sciences /Faculty Of Pharmacy/Petra University. Thesis title "Novel Soluplus and Chitosan dual stimuli-responsive nanoparticles for targeting cancer cells".
17. Student name: Mais Emad Moh'd Said. Graduated (August/2023) Supervisors: and Dr. Dua'a Abu Arqoub and **Dr. Walhan Alshaer**. Department of Pharmaceutical Sciences /Faculty Of Pharmacy/Petra University. Thesis title "The Impact of Hydroxyapatite Nanoparticles on the cellular processes of Stem Cells derived from dental tissue sources".
18. Student name: Nowar Mousa Salem Al Sarayrah. Graduated (August/2023); Supervisors: **Dr. Walhan Alshaer** and Dr. SHareif Abedalghani. Department of Biology/Faculty of Science/The University of Jordan. Thesis title "A Comaparative In Vitro Study Of The Efficacy Of Gemcitabine Nanocrystals And Niosomes As An Alternative Drug Delivery Method For Tumor Targeting".

II. PhD students

1. Student name: Ala'a Shraim. Graduated (Mar/2018) Supervisors: Prf. Abdelrahim A. Hunaiti, Prf. Abdullah S. Awidi, **Dr. Walhan Alshaer** (Co-Supervisor). Department of Biology/Faculty of Science/The University of Jordan. Thesis title "Developing and Characterization of Aptamers Targeting the Kinase Domain of Group III Receptor Tyrosine Kinases".
2. Student name: Hamdi Alnsairat. Graduated (Dec/2019) Supervisors: Prf. Abeer Fayeze Albawab, Prf. Fadwa Mohammed Odeh, **Dr. Walhan Alshaer** (Co-Supervisor). Department of Chemistry/Faculty of Science/The University of Jordan. Thesis title "Remote Drug Loading and Ligand-Functionalization of Liposomes for Targeted Drug Delivery into Cancer Cells".
3. Student name: Zainab M. Lafi. Graduated (Apr/2020) Supervisors: Prf. Yasser Bustanji, **Dr. Walhan Alshaer** (Co-Supervisor). Department of Pharmaceutical sciences/Faculty of Pharmacy/The University of Jordan. Thesis title "Formulation and Functionalization of Aptamer-Guided pH-Sensitive Liposomes for Targeted Drug Delivery of Echinomycin-Cyclodextrin Complex into Cancer Cells".
4. Student name: Lobna Gharaibeh. Graduated (Apr/2020) Supervisors: Prf. Yasser Bustanji, **Walhan Alshaer** (Co-Supervisor). Department of Pharmaceutical sciences/Faculty of Pharmacy/The University of Jordan. Thesis title "Aptamer-Guided Liposomes for Selective Delivery of siRNA Combination into Cancer Cells".
5. Student name: Ali Al-Samydai Graduated (July/2020) Supervisors: Supervisors: Prf. Abeer Fayeze Albawab, Prf. Fadwa Mohammed Odeh, and **Dr. Walhan Alshaer** (Co-Supervisor). Department of Pharmaceutical sciences/Faculty of Pharmacy/The University of Jordan. Anticancer Activity of Capsicum annum: Capsaicin Loaded Nano-Liposomes model.
6. Student name: Fedaa Al-Adaileh. Graduated (May/2022). Supervisors: Prof. Talal Aburjai, **Dr. Walhan Alshaer** (Co-Supervisor). Department of Chemistry/Faculty of Science/The University of Jordan. Thesis title "Crosslinking of water-soluble cyclodextrin with hyaluronic acid for targeted drug delivery".
7. Student name: Usamah Sayed. Graduated (Jan/2023) Supervisors: **Dr. Walhan Alshaer** (Supervisor), and Prf. Malek Zihlif. Department of Chemistry/Faculty of Science/The University of Jordan. Thesis title "Hyaluronic Acid-Coated Chromomycin A3-Loaded Nanoliposomes For Selective Targeting Of Cd44-Expressing Tumor Cells".

Dr. Walhan Alshaer

8. Student name: Mohammad Ahmed Issa Alhatamleh. Graduated (May/2023) Synthesis, Supervisors Dr. Rohimah Mohamud and **Dr. Walhan Alshaer** (field advisor). Department of Immunology, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Malaysia. Thesis title "Characterization and Evaluation of Immunomodulatory, Anticancer, Antibacterial and Wound Healing Activities of Alginate Nanoparticles Loaded with Heterotrigena itama Honey".

b. Current Postgraduate students

• **The University of Jordan**

1. Sheeraz Alhabashneh, MSc Candidate
2. Shrooq Al-Sotari, PhD Candidate
3. Majdoleen Kilani, PhD Candidate
4. Fatima Enayah, PhD Candidate

• **Field advisor (external)**

1. Nirmeen ELzoghier, MSc Candidate, JUST, Irbid, Jordan.
2. Rawan Badra, MSc Candidate, JUST, Irbid, Jordan.
3. Alaa alsaber, MSc Candidate, University of Bologna, Bologna BO, Italy.
4. Rezan Alhadid, MSc Candidate, Munich University of Applied Sciences, Germany.
5. Mohammad Jaafreh, PhD Candidate, UniSA University, Malaysia.

Member of thesis committee's defense

1. PhD thesis referee (reporter). Student name: Arianna Fallacara. Graduated (March/2019) Department of Life Sciences and Biotechnology/University of Ferrara.
2. MSc thesis (examiner). Student name: Sumaya Al-Dajah. Graduated (Dec/2019). Department of Pathology and Microbiology and Forensic Medicine/Faculty of Medicine/The University of Jordan.
3. MSc thesis (examiner). Student name: Hafsa Al-Azzawi. Graduated (Dec/2019). Department of Pathology and Microbiology and Forensic Medicine/Faculty of Medicine/The University of Jordan.
4. MSc thesis (examiner). Student name: Bayan Altbakhi. Graduated (Dec/2019). Department of Chemistry/Faculty of Science/The University of Jordan.
5. MSc thesis (examiner). Student name: Israa Qashoo. Graduated (Dec/2020). Department of Clinical Pharmacy/Faculty of Pharmacy/The University of Jordan.
6. MSc thesis (examiner). Student name: Sana Ayyoub. Graduated (August/2021). Department of Biological Sciences/Faculty of Science/Yarmouk University.
7. MSc thesis (examiner). Student name: Haya Hani Faddah. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
8. MSc thesis (examiner). Student name: Saif Haider Hashem. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
9. MSc thesis (examiner). Student name: Zinah Kadhim Saeed. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
10. MSc thesis (examiner). Student name: Somaya Ahmad El-Tanani. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
11. MSc thesis (examiner). Student name: Zinah Kadhim Saeed. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
12. MSc thesis (examiner). Student name: Mokhtar Zuhair Al-Imami. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
13. MSc thesis (examiner). Student name: Mayada Mustafa Alwattar. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
14. MSc thesis (examiner). Student name: Shatha Abdeljaber. Graduated (2022). Department of Biological Sciences/Faculty of Science/Yarmouk University.
15. MSc thesis (examiner). Student name: Omar Ahmed Alheeti. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.

16. MSc thesis (examiner). Student name: Fatima Alkhuzai. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
17. MSc thesis (examiner). Student name: Ghayda Magableh. Graduated (2022). Department of Biological Sciences/Faculty of Science/Yarmouk University.
18. MSc thesis (examiner). Student name: Aseel Al-Shawaheen. Graduated (2022). Department of Biological Sciences/Faculty of Science/Yarmouk University.
19. MSc thesis (examiner). Student name: Mohammed Tamma. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
20. MSc thesis (examiner). Student name: Noorin Manhal Al-Ekaid. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
21. MSc thesis (examiner). Student name: Fatima Hamid. Graduated (2022). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
22. MSc thesis (examiner). Student name: Rusul Falah Khalaf. Graduated (2023). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
23. MSc thesis (examiner). Student name: Tabarak AL-ZOUBI. Graduated (2023). Department of Biological Sciences/Faculty of Science/Yarmouk University.
24. MSc thesis (examiner). Student name: Rand Osama Alquraishi. Graduated (2023). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
25. MSc thesis (examiner). Student name: Zahraa Majid Al zubidi. Graduated (2023). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
26. MSc thesis (examiner). Student name: Tasneem Othman. Graduated (2023). Department of Pharmaceutical sciences /Faculty of Pharmacy / Petra University.
27. Ph.D. thesis (examiner). Student name: Salameh Mohammad Al-Qaraleh. Graduated (2023). Department of food science/Faculty of agriculture/ The University of Jordan.
28. MSc thesis (examiner). Student name: Dina Raed Abu Al-Samen. Graduated (2023). Department of Pharmaceutical sciences /Faculty of Pharmacy /Al-Ahliyya Amman University.
29. MSc thesis (examiner). Student name: Abrar Sulaiman. Graduated (2023). Department of Physics/Faculty of Science/Yarmouk University.
30. MSc thesis (examiner). Student name. Lubna Al-Tarawneh. Graduated (2023). Department of Physics/Faculty of Science/ The University of Jordan.
31. MSc thesis (examiner). Student name: Balqis Abu-Hudaib. Graduated (2023). Department of Medical Laboratory Sciences/Faculty Of Pharmacy/Al-Ahliyya Amman University.
32. MSc thesis (examiner). Student name: Bailasan Sa`ib. Graduated (2023). Department of Medical Laboratory Sciences/Faculty Of Pharmacy/Al-Ahliyya Amman University.

Teaching courses

- Seminar: 4th year medical laboratory sciences students at the faculty of science. (first semester for the academic year 2019/2020).
- Cytology and Molecular biology course for the first-year medical students at the faculty of medicine. (second semester for the academic year 2019/2020).

Research Grants:

- 1) **CRP - ICGEB Research Grants Programme 2021.** Aptamer-guided Plant Polyphenol Nanoassemblies as Targeted Therapeutics against Breast Cancer. 2021 (50,000\$)(Role: Co-Principal Investigator).
- 2) **Al-Ahliyya Amman University.** A novel drug-based nanomedicine composed of edelfosine and fulvestrant for breast cancer therapy. 2021 (28,000\$)(Role: Co-Principal Investigator).
- 3) **The Higher Council for Science and Technology (HCST).** Preparation and characterization of novel and biocompatible formulation for wound healing. 2021 (28,000 \$). (Role: Principal Investigator).
- 4) **Scientific Research Support Fund:** Generation of anti-tumor compound of thymoquinon and doxorubicin to increase anti-tumor effect. 2019 (24,000 \$). (Role: Co-Principal Investigator).
- 5) **Scientific Research Support Fund:** Depending on molecular dynamics and simulated annealing to design new drugs for enzymes involved in colon and breast cancers then delivering them into cells by active targeting drug system. 2019 (67,000 \$). (Role: Co- Principal Investigator)
- 6) **Deanship of Academic Research and Quality Assurance fund.** Developing nanoparticles for targeted delivery of siRNA to silence genes involved in multidrug resistant in Doxorubicin resistant triple negative breast cancer, 2018 (17,000 \$). (Role: Principal Investigator)
- 7) **Scientific Research Support Fund:** Production and development of genetically modified stem cells in vitro for therapeutic purposes, 2018 (70,000 \$). (Role: Principal Investigator).
- 8) **King Abdullah II fund for Development – KAFD and King Abdullah II Design & Development Bureau – KADDB:** Silencing of stemness genes in triple negative breast cancer using single combination of siRNA that target cross talking pathways, 2018 (7,000 \$). (Role: Principal Investigator)
- 9) **Scientific Research Support Fund:** A new approach towards developing a smart and multifunctional peptide based drug delivery system for selective targeting and treatment of invasive/metastatic breast cancer, 2017(59,000 \$). (Role: Co- Principal Investigator)
- 10) **Hamdi Mango Center for Scientific Research fund:** Preparation and characterization of Echinomycin loaded liposomes, 2017 (8,400 \$). (Role: Principal Investigator)
- 11) **King Abdullah II fund for Development – KAFD and King Abdullah II Design & Development Bureau – KADDB:** Association between mutations reported in CD36 gene (SNPs) and diabetes type 2 (Stage 2), 2017 (7,000 \$). (Role: Principal Investigator).
- 12) **Deanship of Academic Research and Quality Assurance fund.** Developing magnetoliposomes for stem cell labelling and tracking, 2017 (28,000 \$). (Role: Principal Investigator).

Conferences and workshops

- 1) Advances in Cancer Research: From Laboratory to the Clinic. Organized by the American Association for Cancer Research (AACR), 16-19 March 2008, Dead Sea- Jordan.
- 2) The 27th Annual GTRV scientific Meeting, 3-5 December 2012, SANOFI, Paris, France.
- 3) The 13th edition of the Doctoral School Days (EDD) "Therapeutic Innovation: from discovery to application, 17-18 June 2013, Kremlin-Bicêtre, Paris, France. (Poster)
- 4) Use of Aptamers: from Research to Biomedical Industry at the Frédéric Joliot Hospital, Paris, France.
- 5) 28th GTRV scientific meeting, 2-4 December 2013, University of Orléans, Orleans, France. (Poster)
- 6) 1st Oxford Symposium on Aptamers, 24-25 March 2014, Hilda's College, Oxford, UK. (Poster)
- 7) Doc & post-doc day, 16th June 2014, Orsay, France. (Oral Presentation)
- 8) The 14th edition of the Doctoral School Days (EDD) "Therapeutic Innovation: from discovery to application, 17-18 June 2014- Chatenay Malabry, Paris, France. (Poster).
- 9) The 4th annual of the The Laboratory of Excellence in Research on Medication and Innovative Therapeutics (LERMIT). 21 November 2014 Orsay, Paris, France. (Oral presentation).
- 10) 5th International Postgraduate Course on Lysosomal Storage Disorders: Diagnostic Background and Clinical Therapy, 14-16 May, 2015- Berlin, Germany.
- 11) Doc & post-doc day – 1st June 2015, Orsay, France. (Poster).
- 12) 2rd SFNano Annual Meeting, 7-9 December, Grenoble, France (oral presentation).
- 13) 1st Oxford Symposium on Aptamers, 24-25 March 2014, Hilda's College, Oxford, UK. (Poster)
- 14) 4th Oxford Symposium on Aptamers, 11-12 April 2017, Hilda's College, Oxford, UK. (Poster)
- 15) 8th conference on Scientific Research in Jordan, 11 October 2017, The University of Jordan. (Invited, oral presentation)
- 16) Invited lecturer for post graduate students at the faculty of pharmacy/ the University of Jordan. November 2018
- 17) Invited lecturer at the faculty of science/the university of Jordan, December 2018
- 18) Invited lecturer at the Jordan Pharmaceutical Association, ACDIMA BioCenter/Amman, August 2019
- 19) Invited lecturer at Jordan Pharmaceutical Students' Association (JPSA). Amman/Jordan, October 2020.
- 20) Invited lecturer at seminars and conferences committee activities, school of pharmacy, The University of Jordan, Amman, Jordan. December 2020.
- 21) The 8th International Conference of Jordanian Society Of Hematology- Amman, Jordan, February 2021.
- 22) Invited lecturer at seminars and conferences committee activities, school of pharmacy, The University of Jordan, Amman, Jordan, February 2021.
- 23) Invited lecturer at Jordan Nano-Symposium 2021, The University of Jordan, Amman, Jordan, March 2021. (co-chair and member of the organizing committee).
- 24) 7th Oxford Symposium on Aptamers, Hilda's College, Oxford, UK, April 2021.
- 25) Cryo - Electron Microscopy Seminar/Workshop, Thermo Fisher Scientific. May 2021.
- 26) Invited lecturer at scientific research day 2021, Al-Ahliyya Amman University (AAU), Amman, Jordan, October 2021.
- 27) Invited lecturer at Jordan Society in Hundred Years, The University of Jordan, Amman, Jordan, December 2021.
- 28) Workshop: virtual national patent drafting, organized by the World Intellectual Property Organization (WIPO) in cooperation with the Industrial Property Protection Directorate (IPPD), Ministry of Industry, Trade and Supply of the Hashemite Kingdom of Jordan. December 2021.
- 29) Invited speaker at International Conference of Applied Chemistry and Biotechnology (ICACB-2022), Al-Balqa Applied University, Al-Salt-Jordan, May 2022.
- 30) Invited speaker at DAAD-Project PIANO Amman, Jordan, October 2022.
- 31) Invited keynote speaker at Recent Trends in Pharmaceutical Research conference at Yarmouk University, Irbid, Jordan 2023.

Dr. Walhan Alshaer

Languages

- Arabic (Native)
- English (Fluent)
- French (Good)

Referees

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