

**Name: Prof. Hana M. Hammad**

**Education:**

- Ph.D. Pharmacology, North Dakota State University, Fargo, North Dakota, USA, 2005.
- M.Sc. Biology (Physiology), University of Jordan Amman, Jordan, 1995.
- B.Sc. Biology, University of Jordan, Amman, Jordan, 1992.

**Academic experience:**

- **University of Jordan**

11/2019-present	Professor, Department of Biological Sciences
3/2014-11/2019	Associate Professor, Department of Biological Sciences
9/2007-3/2014	Assistant Professor, Department of Biological Sciences

- **North Dakota State University**

8/2006-5/2007	Assistant Professor, Department of Pharmaceutical Sciences
1/2006-5/2006	Lecturer, Department of Pharmaceutical Sciences

**Non-academic experience:**

- 9/2014-8/2015 Chair of the Department of the Biological Sciences, University of Jordan, Amman, Jordan.
- 5/2005-12/2005 Postdoctoral fellow, Department of Pharmacology, Physiology and Therapeutics, University of North Dakota, Grand Forks, North Dakota, USA.

**Service activities:**

- Membership of many committees at the Department of Biological Sciences and at the level of the Faculty of Science.
- Graduate Program Advisor, Department of Biological Sciences, Collage of Science, The University of Jordan, Amman, Jordan, 9/2017- 9/2019, 9/2022- present
- Supervision (Graduate and Undergraduate Students)

Supervision of several Ph.D. (8), M.Sc. (2), and B.Sc. (15) students.

**Publications from the last 5 years:**

1. Zihlif, M., Hameduh, T., Bulatova, N., **Hammad, H.** "Alteration in the expression of the chemotherapy resistance-related genes in response to chronic and acute hypoxia in pancreatic cancer". *Biomedical Reports*, 2023; 19 (6): 88. <https://doi.org/10.3892/br.2023.1670>
2. Al-Sisan SM, Zihlif MA and **Hammad HM**. Differential miRNA expression of hypoxic MCF7 and PANC-1 cells. *Front. Endocrinol*, 2023; 14:1110743.doi: 10.3389/fendo.2023.1110743
3. Imraish A, Abu-Thiab T, **Hammad H**. P2X and P2Y receptor antagonists reduce inflammation in ATP-induced microglia. *Pharmacy Practice* 2023;21(1):2788.
4. **Hammad HM** ,Imraish A, Al-Hussaini M, Zihlif M, Harb AA, Abu Thiab TM, Lafi Z, Nassar ZD, Afifi FU. Ethanol Extract of *Achillea fragrantissima* Enhances Angiogenesis

- through Stimulation of VEGF Production. *Endocrine, Metabolic & Immune Disorders - Drug Targets* 2021; 21 . <https://doi.org/10.2174/1871530321666201230113018>
5. Rababa'h SY, Alzoubi KH, Hammad H, AlQuraan L, Rababa'h AM. The Protective Role of L-carnitine on Psychosocial Stress-induced Changes in Gene Expression and Protein Levels of Matrix Metalloproteinases, Serum Corticosterone in a Rat Model. *CNS & Neurological Disorders - Drug Targets*, 2023; 22(10):1518 - 1525.DOI: 10.2174/1871527322666221005130026
  6. Al-Momany B, **Hammad H**, Ahram M. Dihydrotestosterone induces chemo-resistance of triple-negative breast MDA-MB-231 cancer cells towards doxorubicin independent of ABCG2 and miR-328-3p. *Current Molecular Pharmacology*. 2021; 14(). DOI: 10.2174/1874467214666210531170355. PMID: 34061013.
  7. Baqlouq L ,Zihlif M , **Hammad H** , Abu Thaib TM. Determining the Relative Gene Expression Level of Hypoxia Related Genes in Different Cancer Cell Lines. *Curr Mol Pharmacol*, 2021; 14(1) . <https://doi.org/10.2174/1874467213666200521081653>
  8. Imraish A, Abu Thiab T, Al-Awaida W, Al-Ameer HJ, Bustanji Y, **Hammad H**, Alsharif M, Al-Hunaiti A. In vitro anti-inflammatory and antioxidant activities of ZnFe<sub>2</sub>O<sub>4</sub> and CrFe<sub>2</sub>O<sub>4</sub> nanoparticles synthesized using *Boswellia carteri* resin. *J Food Biochem*. 2021; 45:e13730. <https://doi.org/10.1111/jfbc.13730>
  9. Shehadi IA, Delmani F-A, Jaber AM, **Hammad H**, AlDamen MA, Al-Qawasmeh RA, Khanfar MA. Synthesis, Characterization and Biological Evaluation of Metal Adamantyl 2-Pyridylhydrazone Complexes. *Molecules*. 2020; 25(11):2530. <https://doi.org/10.3390/molecules25112530>
  10. Al Khalyfeh, K, Taher D, Helal W, KORB M, Hamadneh I, AL-Dujaili A, Imraish A, **Hammad HM**, Al-As'ad RM, Abu-Orabi ST, Hildebrandt A, Lang H. Synthesis and characterization of 1,4-chalcogenesters bearing 5-membered heterocycles. *J Chem Sci*, 2020; 132, 117 <https://doi.org/10.1007/s12039-020-01825-x>
  11. **Hammad HM**, Abu Thiab TM, Zihlif M. Hypoxia-induced gene expression pattern in doxorubicinresistant MCF7 cells. *Trop J Pharm Res*, 2019; 18(8): 1589-1590. <http://dx.doi.org/10.4314/tjpr.v18i8.3>
  12. **Hammad HM**, Imraish A, Azab B, Best AM, Khader YS, Zihlif M. Associations of CYP2A6 Gene Polymorphism with Smoking Status among Jordanians: Gender-Related Differences. *Curr Drug Metab*. 2019, 20(9): 765 - 770. doi: 10.2174/1389200220666190827161112.
  13. Alhawarat FM, **Hammad HM**, Hijjawi MS, Sharab AS, AbuarqoubDA, Al Shhab MA, Zihlif MA. The effect of cycling hypoxia on MCF-7 cancer stem cells and the impact of their microenvironment on angiogenesis using human umbilical vein endothelial cells (HUVECs) as a model. *PeerJ* 2019, 7:e5990.
  14. Rababa'h S Y, Alzoubi KH, **Hammad HM**, Alquraan L, El-Salem K. Memory Impairment Induced by Chronic Psychosocial Stress Is Prevented by L-Carnitine. *Drug Des Devel Ther.*, 2019; 13: 4341–4350, doi: 10.2147/DDDT.S225264
  15. Alhattab D, Jamali F, Ali D, **Hammad H**, Adwan S, Rahmeh R, Samarah O, Salah B, Hamdan M, Awidi A. An Insight into the Whole Transcriptome Profile of Four Tissue Specific Human Mesenchymal Stem Cells. *Regen. Med* 2019, <https://doi.org/10.2217/rme-2018-0137>

16. Alquraan L, Alzoubi KH, **Hammad H**, Rababa'h SY, Mayyas FA. Dietary Omega-3 Fatty Acids Prevents Post-Traumatic Stress Disorder-Induced Memory Impairment. *Biomolecules* 2019, 9, 100; doi:10.3390/biom9030100
17. Al-Qtaitat MA, El-Abadelah MM, Sabri SS, Matar SA, **Hammad HM**, Mubarak MS. Synthesis, Characterization, and Bioactivity of Novel Bicinnolines Having 1-Piperazinyl Moieties. *J Heterocyclic Chem* 2019, 56:158-164
18. Azab B, alassaf A, Abu-Humdan A, Dardas Z, Almousa H, Alsalem M, Khabour O, **Hammad H**, Saleh T, Awidi A. Genotoxicity of cisplatin and carboplatin in cultured human lymphocytes: a comparative study. *Interdiscip Toxicol.* 2019; 12(2): 93–97.

**The most recent professional activities:**

- Carrying out research projects (Several research grants were awarded).
- Supervising graduate students.
- Preparation of comprehensive and qualifying exams for MSc and PhD students, respectively.