CURRICULUM VITAE

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EDUCATION

UNDERGRADUATE

M.B.Ch.B degree in Veterinary medicine and surgery, August /2003. College of Veterinary medicine – Baghdad University /Iraq.

GRADUATE

Degree of Master of Science in Veterinary Medicine-Animal Physiology, January /2008. College of Veterinary medicine –Baghdad University /Iraq

Degree of Doctor of Philosophy Graduate Program in Physiology and Integrative Biology, May/2018.

Rutgers, The State University of New Jersey. USA

A. Personal Statement

My academic and research journey is driven by a profound passion for understanding the intricate mechanisms of cancer metabolism, metabolic diseases, and innovative drug development. With a robust educational background spanning veterinary medicine and integrative biology, I have dedicated my career to advancing scientific knowledge at the intersection of cellular metabolism, oncology, and therapeutic interventions. My research has been particularly focused on groundbreaking approaches to cancer and metabolic disease treatment. Specifically, I have made significant contributions in exploring mitochondrial uncoupling strategies for treating various cancers, including hepatic metastasis of pancreatic and colon cancers. My work has been published in high-impact journals like Blood, Oncogene, and Cell Death & Disease, highlighting the innovative nature and scientific relevance of my research. A key area of my expertise lies in developing novel therapeutic strategies that target cancer cell metabolism. By investigating mitochondrial uncouplers and their effects on different cancer models, I have contributed to expanding our understanding of potential treatment mechanisms for challenging malignancies. My research has not only explored cancer treatments but has also extended to metabolic disorders like type 2 diabetes, demonstrating a comprehensive approach to understanding complex physiological systems. My professional experience includes serving as a Post-doctoral Fellow at Rutgers Cancer Institute and teaching at the University of Thi-Qar in Iraq, where I have instructed courses in human physiology, anatomy, and pathophysiology. This dual commitment to research and education reflects my belief in advancing scientific knowledge through both investigative research and academic mentorship.

B. Positions and Honors

Positions and Employment

2003-2004 Resident for one year in Veterinary hospital / Thi-Qar, Iraq
2008-2011 Lecturer, Department of medical Basic Science, Thi-Qar University/ School of Nursing, Iraq
20018-2024. Assistant Professor, Department of medical Basic Science, Thi-Qar University/ School of, Iraq
2024-2025. Post-doctoral Fellow, Rutgers Cancer Institute, Rutgers University, New Brunswick, NJ.

Other Experiences and Professional Memberships

2015 – current Member, American Association for Cancer Research
2016 – current Member, American Pancreatic Association
2016 – current Member, American Association for the Advancement of Science
2024– current Editorial Board, Clinical Neuroscience & Neurological Research International Journal.
2018 – current Editorial Board, European Journal of Pharmaceutical and Medical Research
2018 – current Editorial Board, Annals of Phytomedicine-An International Journal
2016 – current Peer Reviewer AACR Molecular Cancer Therapeutics Journal
2016 – current Peer Reviewer AACR Molecular Cancer Research Journal
2018 – current Peer Reviewer of Experimental & Clinical Cancer Research Journal
2018 – current Peer Reviewer of Advanced Pharmaceutical Technology & Research Journal
2018 – current Peer Reviewer of International Journal of Diabetes in Developing Countries
2018 – current Peer Reviewer of Asian Pacific Journal of Tropical Biomedicine

Honors and Awards

2016 Gallo Award for understanding cancer research in the 2018 Annual Retreat on cancer research in NewJersey May 26,2018.
2017 Graduate School of Biomedical Science (GSBS) Completion and Acceleration Fellowship
2018 Gallo Award for understanding cancer research in the 2018 Annual Retreat on cancer research in NewJersey May 26,201
2025 NJCCR Postdoctoral Fellowship Grant 2026

C. Contributions to Science

1-Targeting mTOR signaling pathways to treat cancer

The mammalian Target of Rapamycin (mTOR) represents a pivotal molecular hub in cellular biology, manifesting as two distinct protein complexes—mTORC1 and mTORC2—that orchestrate fundamental cellular processes of growth, proliferation, survival, and metabolism. As one of the most frequently dysregulated pathways in human cancers, mTOR signaling emerges as a critical molecular mechanism underlying malignant transformation and progression.

These mTOR complexes function as sophisticated molecular switches, integrating diverse cellular signals from nutrient availability, energy status, growth factors, and stress conditions. Hyper-activation of mTOR signaling confers profound oncogenic advantages, enabling cancer cells to circumvent normal growth regulatory mechanisms. This aberrant activation provides malignant cells with unprecedented capacities for uncontrolled proliferation, metabolic reprogramming, and resistance to apoptotic signals.

The research methodology employed a sophisticated and precise approach to hepatocellular carcinoma (HCC) modeling using hydrodynamic tail vein injection, a cutting-edge technique that allows for efficient and targeted genetic modification of hepatic cells. This innovative method involves the rapid injection of a limited volume of genetic material directly into the tail vein, causing transient but significant disruption of the hepatic vasculature and enabling efficient gene delivery to hepatocytes. The technique represents a powerful tool for studying oncogenic transformation and hepatic carcinogenesis at the molecular and cellular levels.

2-Modify mitochondrial function for treatment of cancer, obesity, and type 2 diabetes

Mitochondria play a crucial role in addressing critical medical challenges, including obesity, type 2 diabetes, NASH, cancer, and neurodegenerative diseases. Beyond generating cellular energy (ATP), mitochondria produce metabolic intermediates that support cell proliferation. Their oxidative byproducts, reactive oxygen species (ROS), are a primary driver of aging and age-related diseases. Our research focuses on developing experimental therapeutics that can modulate mitochondrial function to potentially treat these complex medical conditions.

Cancer cells exhibit a unique metabolic phenomenon known as aerobic glycolysis, or the Warburg effect, which fundamentally alters cellular metabolism. Unlike normal cells, these malignant cells strategically prevent the complete mitochondrial oxidation of glucose and glutamine. Instead, they redirect glucose through alternative metabolic pathways, generating critical metabolic intermediates essential for the biosynthesis of macromolecules such as RNA, DNA, and proteins. This metabolic reprogramming provides cancer cells with the necessary building blocks to support rapid proliferation and sustain their aggressive growth.

Our research introduced a groundbreaking therapeutic approach through mitochondrial uncoupling, which disrupts this metabolic strategy. By significantly increasing glucose oxidation within cancer cells, we can effectively deplete the glucose metabolites crucial for macromolecule synthesis. This intervention fundamentally compromises the cancer cells' ability to generate the biomolecular components required for continued proliferation, thereby presenting a novel and promising anti-cancer therapeutic strategy.

- **da Silva-Diz V, Cao B, Lancho O, Chiles E, Alasadi A, Aleksandrova M, Luo S, Singh A, Tao H, Augeri D, Minuzzo S. (2021)**. A novel and highly effective mitochondrial uncoupling drug in T-cell leukemia. Blood, The Journal of the American Society of Hematology. 14;138(15):1317-30.
- **Alasadi, A., Cao, B., Guo, J. *et al.*** 2021. Mitochondrial uncoupler MB1-47 is efficacious in treating hepatic metastasis of pancreatic cancer in murine tumor transplantation models. *Oncogene* **40**, 2285–2295
- **Guo J, Tao H, Alasadi A, Huang Q, Jin S. 2018.** Niclosamide piperazine prevents high-fat diet-induced obesity and diabetic symptoms in mice. Eat Weight Disord. In press

- **Alasadi, A., Chen, M., Swapna, G.V.T., Tao, H., Guo, J., Collantes, J., Fadhil, N., Montelione, G.T. and Jin, S., 2018.** Effect of mitochondrial uncouplers niclosamide ethanolamine (NEN) and oxyclozanide on hepatic metastasis of colon cancer. *Cell death & disease*, *9*(2), p.215.
- **Tao H, Guo J, Alasadi A, Jin S ., 2017.** Anti-Diabetic Effects of Niclosamide Ethanolamine and Metforminin Mouse Models. J Diabetes Endocrinol Metab Disord

3. Applying precision gene editing technology for developing therapeutics for treating genetic diseases

The landscape of genetic medicine faces a formidable challenge: over 6,000 human genetic diseases originate from point mutations, representing a complex medical frontier that has long resisted comprehensive therapeutic interventions. While the emergence of CRISPR technology has illuminated new pathways for potential genetic correction, existing gene-editing methodologies remain encumbered by significant technical limitations that have impeded their translational potential.

The core architectural innovation of our platform resides in its sophisticated molecular design. By deploying a nuclease-deficient Cas9 protein—engineered for precise sequence recognition—in conjunction with an elegantly constructed RNA-based recruitment mechanism, we enable direct, targeted base pair conversions. Specifically, our approach facilitates precise C to T and A to G nucleotide modifications without inducing the genomic disruption characteristic of traditional CRISPR techniques.

- **Collantes, J.C., Tan, V.M., Xu, H., Ruiz-Urigüen, M., Alasadi, A., Guo, J., Tao, H., Su, C., Tyc, K.M., Selmi, T. and Lambourne, J.J., 2021**. Development and Characterization of a modular CRISPR and RNA aptamer mediated base editing system. *The CRISPR Journal*, *4*(1), pp.58-68.

D.Meeting and Presentation

- AMER ALASADI, Jingjing Guo , Hanlin Tao & Shengkan Jin. Preventing and treating hepatic metastatic colon and pancreatic cancers by targeting cell metabolism. Presentation in the 2016 Annual Retreat oncancer research in New Jersey May 26,2016
- AMER ALASADI , Hanlin Tao & Shengkan Jin. Treatment of pancreatic cancer through targeting cancer cellmetabolism by mitochondrial uncouplers. **Poster presentation** at the 48th Annual Meeting of the American Pancreatic Association. APA annual meeting on pancreatic cancer in San Diego –California in November 8-11-2017.
- AMER ALASADI, Jingjing Guo, Hanlin Tao & Shengkan Jin .Preventing and treating hepatic metastaticcolon and pancreatic cancers by targeting cell metabolism. AACR Annual Meeting in New Orleans Louisiana in April 16- 20/2016.
- AMER ALASADI, Jingjing Guo , Hanlin Tao & Shengkan Jin. Preventing and treating hepatic metastatic colon and pancreatic cancers by targeting cell metabolism. Presentation in the 2016 Annual Retreat oncancer research in New Jersey May 26,2016.

F.Activities and services

- American Association for Cancer Research 2019-2020.
- American Association for Cancer Research 2015-2016.
- Attended the annual retreat on cancer Research in New Jersey in 2014, 2015, 2016 and 2018.
- Attended the Inaugural Symposium of Lipid and Metabolic Diseases. The Rutgers center for lipid research. The New Jersey Institute for Food, Nutrition and Health. Rutgers University, New Brunswick, NJ. November 5, 2015.

PUBLICATIONS

1-Alasadi A, Fadhil N and Chen S.(2025). Deciphering the critical roles of the AMPK/mTOR signaling pathway in cancer cell metabolism (Review). World Acad Sci J 7: 103.

2-Amer Alasadi, Husam Al-Hraishawi, & Haider Humaish. (2023). Almond oil improves the levels of some trace elements and antioxidant status in mice exposed to oxidative stress. Journal of the Pakistan Medical Association, 73(9), S139-S143. https://doi.org/10.47391/JPMA.IQ-29

3-Alsaidi, Z.Z., Humaish, H.H., Alasadi, A.Toxic effects of Cyclophosphamide on Hepatic and Kidney tissuesin Albino Mice Model. *Research Journal of Pharmacy and Technology*., 2022, 15(10), pp. 4655–4659.

4-Amer Alasadi, Basim Turki Alyousif, Noor Fadhil. (2022). Proteins in the kinetochore generate forces to drive chromosomes movement. GSC Biological and Pharmaceutical Sciences 20 (2), 046-051.

5-da Silva-Diz V, Cao B, Lancho O, Chiles E, Alasadi A, Aleksandrova M, Luo S, Singh A, Tao H, Augeri D, Minuzzo S. (2021). A novel and highly effective mitochondrial uncoupling drug in T-cell leukemia. Blood, TheJournal of the American Society of Hematology. 14;138(15):1317-30.

6-Alasadi, A., Cao, B., Guo, J. *et al.* 2021. Mitochondrial uncoupler MB1-47 is efficacious in treating hepaticmetastasis of pancreatic cancer in murine tumor transplantation models. *Oncogene* 40, 2285–2295.

7-Collantes, J.C., Tan, V.M., Xu, H., Ruiz-Urigüen, M., Alasadi, A., Guo, J., Tao, H., Su, C., Tyc, K.M., Selmi,T. and Lambourne, J.J., 2021. Development and Characterization of a modular CRISPR and RNA aptamermediated base editing system. *The CRISPR Journal*, *4*(1), pp.58-68.

8-Humaish HH, Alasadi A, Aldafae I.,2020. Evaluation the Relationship between Oral ContraceptivesContaining Drospirenone with Dyslipidemia and Risk of Cardiovascular Diseases among Women in Al-kut City. Indian J Med Forensic Med Toxicol. 14:1920-6.

9-Humaish HH, Alasadi A, Muslem ZZ.,2020. The protective efficacy of parsley seed extracts on some physiological and biochemical criteria against cadmium induced toxicity. Int J Pharm Res;2:3978-85.

10-Alasadi A, Humaish HH, Al-Hraishawi H.,2020. Evaluation the predictors of nonalcoholic fatty liver disease(NAFLD) in type 2 diabetes mellitus (T2DM) patients. Systematic Rev Pharm 11:421–30. doi: 10.31838/srp.2020.5.58.

11-Guo J, Tao H, Alasadi A, Huang Q, Jin S. 2018. Niclosamide piperazine prevents high-fat diet-induced obesity and diabetic symptoms in mice. Eat Weight Disord. In press.

12- Alasadi, A., Chen, M., Swapna, G.V.T., Tao, H., Guo, J., Collantes, J., Fadhil, N., Montelione, G.T. and Jin, S., 2018. Effect of mitochondrial uncouplers niclosamide ethanolamine (NEN) and oxyclozanide on hepatic metastasis of colon cancer. *Cell death & disease*, *9*(2), p.215.

13-A Alasadi, S Jin,.2017. Treatment of Pancreatic Cancer Through Targeting Cancer CellMetabolism by Mitochondrial Uncouplers. Pancreas.

14-Tao H, Guo J, Alasadi A, Jin S ., 2017. Anti-Diabetic Effects of Niclosamide Ethanolamine and Metforminin Mouse Models. J Diabetes Endocrinol Metab Disord.

15-AMER H. ALASADI, Jingjing Guo, Hanlin Tao and Shengkan Jin ., 2016. Preventing and treating hepatic metastatic colon and pancreatic cancers by targeting cell metabolism. Proceedings: AACR 107th Annual Meeting.

13-AMER ALASADI & Shengkan Jin.,2016. Preventing and treating hepatic metastatic colon and pancreaticcancers by targeting cell metabolism. European Journal of Cancer 54 S1–S7.

- **Scopus account:**

  https://www.scopus.com/authid/detail.uri?authorId=57197772021

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- **Google Scholar:**
  https://scholar.google.com/citations?hl=en&user=cStPn8MAAAAJ&view_op=list_works&gmla=AJsN-F7GS3mzDLYRZXpFRwkd4JlpF1cbeUvFoG0dRO1aRySlXUruDN84zbbMgLQNkkr7VZK_PF6dKJmOzC8PuPRKjX 7oN1jrj-ChaFFDXfaJfY5qqxsGT00

- **PubMed account:**

- https://www.ncbi.nlm.nih.gov/myncbi/collections/mybibliography