

Rami A. Alfar

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Education

Purdue University

PhD in Medicinal Chemistry and Molecular Pharmacology

Concentration: Immunotherapy

West Lafayette, IN

August 2017 – September 2022

Jordan University of Science and Technology

Doctor of Pharmacy, Valedictorian of Graduating Class, GPA: 3.61

Irbid, Jordan

September 2007– May 2013

Technical Skills

- Techniques: Organic Synthesis, Analytical Chemistry, Flow Cytometry, Biological Assays, In Vivo studies
- Technology: LCMS, HPLC, CombiFlash, NMR, UV Spectrophotometer, AMI Optical Imaging
- Specific programs: ChemDraw, FlowJo, GraphPad Prism

Patents & Publications

- Patent submission #68726-03 – Licensed by a startup company: Targeting Immunosuppressive Regulatory T Cells in the Tumor Micro Environment Utilizing Folate Receptor Delta
- Cresswell, G. M., Wang, B., Kischuk, E. M., Broman, M. M., Alfar, R. A., Vickman, R. E., ... & Low, P. S. (2021). Folate receptor beta designates immunosuppressive tumor-associated myeloid cells that can be reprogrammed with folate-targeted drugs. *Cancer Research*, 81(3), 671-684.
- Targeting Regulatory T Cells Utilizing Folate Receptor Delta: First Author Paper – In review

Research Experience

Utilizing Targeted Therapeutics to Reprogram Immune Cells

August 2017 – January 2023

Prof. Philip S. Low

Project 1: Targeting Immunosuppressive Regulatory T Cells Utilizing Folate Receptor Delta

- Identification of a folate-analogue as a potential targeting ligand for FR-Delta that is over-expressed on Tregs.
- Validation of the targeting ligand In Vitro and In Vivo utilizing imaging & flow cytometric binding studies.
- Development and validation of a novel TLR7 agonist linked to the targeting ligand in multiple tumor models.
- Induction of significant tumor growth inhibition in multiple murine tumor models by reprogramming the function of the immunosuppressive Tregs, which was further analyzed using flow cytometry and other assays.

Project 2: Targeting and Reprogramming M2 Macrophages with Non-releasable Folate-TLR7

- Synthesis of novel TLR7 agonist and its folic acid-targeted and non-releasable form.
- Tested the compounds' effect in macrophages isolated from human PBMCs In Vitro using ELISA and Flow
- Pre-clinical studies in multiple murine mouse models showing significantly reduced lung and liver metastatic lesions by reprogramming the immunosuppressive M2 macrophages

Professional Experience

Assistant Professor

Medicinal Chemistry Department, JUST

February 2024 – Present

Teaching Assistant

Purdue University, West Lafayette

General Chemistry CHM116

August 2018 – July 2022

- Lab instructor and Recitations instructor
- Organic Chemistry labs CHM263 and CHM264

- Lab instructor



Technical Sales Supervisor

El-Far Importing Co. for Laboratory Supplies, Amman, Jordan

May 2013 – July 2017

- Assisting clients with their research-related problems and providing them with the best technical solutions and laboratory supplies to meet their needs.

Certifications

- Mini MBA Advanced Diploma - Cambridge Training College  December 2016
- Certified Trainer - EQUIP Leadership Organization  August 2015