

Mohammed Abdullah Assiri, PhD

Personal Information:

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Address: Department of Pharmacology and Toxicology, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

Education:

- Doctor of Philosophy in Toxicology 2014-2019
Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado Anschutz Medical Campus, Aurora, Colorado, USA.
- Bachelor of Pharmaceutical sciences 2004-2010
College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.

Job Experience:

- Associate Professor 2024- present
Department of Pharmacology and Toxicology, College of Pharmacy, King Saud University, Riyadh Saudi Arabia.
- Assistant Professor 2019- 2024
Department of Pharmacology and Toxicology, College of Pharmacy, King Saud University, Riyadh Saudi Arabia.
- Graduate Student 2014-2019
Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado Anschutz Medical Campus, Aurora, Colorado, USA.
Thesis title: *Involvement of Mitochondrial Protein Post Translational Modification in The Pathogenesis of Alcoholic Liver Disease*
Mentor: Dr. Kristofer Fritz
- Teaching Assistant 2012-2014
Department of Pharmacology and Toxicology, College of Pharmacy, King Saud University, Riyadh Saudi Arabia.
- Pharmacist 2010-2012
Prince Sultan Military Medical City, Riyadh Saudi Arabia

Research Interests:

- Diabetes and diabetic nephropathy
- Utilizing the Omics techniques to understand the underlying mechanism of diseases
- Hepatic and renal toxicity
- Role of diet on xenobiotics induced toxicity

Publications:

- Almohammed, Omar A; Alsanea, Sary; Albishi, Nouf; AlMuhareb, Lamia; AlMotawa, Rana; Alrasheed, Sara; Alasmari, Fawaz; Almutairi, Faris; **Assiri, Mohammed A**; Alghamdi, Ali; *Evaluating the use of paracetamol to prevent fasting headache during the first week of Ramadan: A randomized, open-label, clinical trial*, *Headache: The Journal of Head and Face Pain*, 2024
- Alshamrani, Ali A; Salman, Sami B Bin; Alsaleh, Nasser B; **Assiri, Mohammed A**; Almutairi, Mohammed M; Almudimeegh, Sultan; Alwhaibi, Abdulrahman M; Sobeai, Homood M; *miRNAs-Driven sensitization of breast cancer cells to Doxorubicin treatment following exposure to low dose of Zinc oxide nanoparticles*, *Saudi Pharmaceutical Journal*, 102169, 2024, Elsevier

- Schwab, Stefanie K; Harris, Peter S; Michel, Cole; McGinnis, Courtney D; Nahomi, Rooban B; **Assiri, Mohammed A**; Reisdorph, Richard; Henriksen, Kammi; Orlicky, David J; Levi, Moshe; *Quantifying Protein Acetylation in Diabetic Nephropathy from Formalin-Fixed Paraffin-Embedded Tissue*, proteomics–Clinical Applications, e2024,00018,2024
- Alsaleh, Nasser B; Aljarbou, Anas M; Assal, Mohamed E; **Assiri, Mohammed A**; Almutairi, Mohammed M; As Sobeai, Homood M; Alshamrani, Ali A; Almudimeegh, Sultan; Hatshan, Mohammad R; Adil, Syed F; *Synthesis, Characterization, and Toxicity Assessment of Zinc Oxide-Doped Manganese Oxide Nanoparticles in a Macrophage Model* Pharmaceuticals, 17, 2, 168, 2024, MDPI
- **Assiri, Mohammed A**; Al Jumayi, Sahar R; Alsuhaymi, Shuruq; Emwas, Abdul-Hamid; Jaremko, Mariusz; Alsaleh, Nasser B; Al Mutairi, Mohammed M; Alshamrani, Ali A; Sobeai, Homood As; Alghibiwi, Hanan; *Electronic cigarette vapor disrupts key metabolic pathways in human lung epithelial cells*, Saudi Pharmaceutical Journal, 32, 1, 101897, 2024 Elsevier
- **Assiri, Mohammed A**; Albekairi, Thamer H; Ansari, Mushtaq A; Nadeem, Ahmed; Attia, Sabry M; Bakheet, Saleh A; Shahid, Mudassar; Aldossari, Abdullah A; Almutairi, Mohammed M; Almana, Taghreed N; *The Exposure to Lead (Pb) Exacerbates Immunological Abnormalities in BTBR T+ Itpr3tf/J Mice through the Regulation of Signaling Pathways Relevant to T Cells*, International Journal of Molecular Sciences, 24, 22, 16218, 2023, MDPI
- Alsuhaymi, Shuruq; Singh, Upendra; Al-Younis, Inas; Kharbatia, Najeh M; Haneef, Ali; Chandra, Kousik; Dhahri, Manel; **Assiri, Mohammed A**; Emwas, Abdul-Hamid; Jaremko, Mariusz; *Untargeted metabolomics analysis of four date palm (Phoenix dactylifera L.) cultivars using MS and NMR*, Natural Products and Bioprospecting, 13, 1, 44, 2023, Springer Nature Singapore Singapore
- Aldossari, Abdullah A; **Assiri, Mohammed A**; Ansari, Mushtaq A; Nadeem, Ahmed; Attia, Sabry M; Bakheet, Saleh A; Albekairi, Thamer H; Alomar, Hatun A; Al-Mazroua, Haneen A; Almana, Taghreed N; *Histamine H4 receptor antagonist ameliorates the progression of experimental autoimmune encephalomyelitis via regulation of T-cell imbalance*, International Journal of Molecular Sciences, 24, 20, 15273, 2023, MDPI
- Al Ofair, Abdulhadi A; Alamri, Muhanned; Alshehri, Sultan H; Alzahrani, Ziyad A; Alrumaih, Alwaleed K; Syed, Wajid; Al-Arifi, Mohamed N; **Assiri, Mohammed A**; Muayqil, Taim A; Alwhaibi, Abdulrahman; *Level of knowledge and quality of life among Saudi caregivers of Parkinson's disease patients: A study from a tertiary hospital in Riyadh, Saudi Arabia*, Saudi Pharmaceutical Journal, 31, 10, 101765, 2023, Elsevier
- Alshamrani, Ali A; Al-Hamamah, Mohammed A; Albekairi, Norah A; Attia, Mohamed SM; Ahmad, Sheikh F; **Assiri, Mohammed A**; Ansari, Mushtaq A; Nadeem, Ahmed; Bakheet, Saleh A; Alanazi, Wael A; *Impacts of the DPP-4 inhibitor saxagliptin and SGLT-2 inhibitor dapagliflozin on the gonads of diabetic mice*, Biomedicines, 11, 10, 2674, 2023, MDPI
- Alsaleh, Nasser B; **Assiri, Mohammed A**; Aljarbou, Anas M; Almutairi, Mohammed M; As Sobeai, Homood M; Alshamrani, Ali A; Almudimeegh, Sultan; *Adverse Responses following Exposure to Subtoxic Concentrations of Zinc Oxide and Nickel Oxide Nanoparticles in the Raw 264.7 Cells*, Toxics, 11, 8, 674, 2023, MDPI
- Alasmari, Fawaz; Alasmari, Mohammed S; **Assiri, Mohammed A**; Alswayyed, Mohammed; Rizwan Ahamad, Syed; Alhumaydhi, Abdulrahman I; Arif, Bandar I; Aljumayi, Sahar R; Alasmari, Abdullah F; Ali, Nemat; *Liver metabolomics and inflammatory profiles in mouse model of fentanyl overdose treated with beta-lactams*, Metabolites, 13, 8, 965, 2023, MDPI
- AlGhibiwi, Hanan K; Sarawi, Wedad S; Alosaimi, Manal E; Alhusaini, Ahlam M; **Assiri, Mohammed A**; Algarzae, Norah K; *The Association between Cardiovascular Risk Factors and Carotid Intima-Media Thickness in 42,726 Adults in UK Biobank: A Cross-Sectional Study*, Journal of Cardiovascular Development and Disease, 10, 9, 358, 2023, MDPI
- Alomar, Hatun A; Nadeem, Ahmed; Ansari, Mushtaq A; Attia, Sabry M; Bakheet, Saleh A; Al-Mazroua, Haneen A; Alhazzani, Khalid; **Assiri, Mohammed A**; Alqinyah, Mohammed;

Almudimeegh, Sultan; *Mitogen-activated protein kinase inhibitor PD98059 improves neuroimmune dysfunction in experimental autoimmune encephalomyelitis in SJL/J mice through the inhibition of nuclear factor-kappa B signaling in B cells*, Brain Research Bulletin, 194, 45-53, 2023, Elsevier

- Ansari, Mushtaq A; Nadeem, Ahmed; Attia, Sabry M; Bakheet, Saleh A; Alasmari, Abdullah F; Alomar, Hatun A; Al-Mazroua, Haneen A; Alhamed, Abdullah S; Shahid, Mudassar; Alqinyah, Mohammed, **Assiri, Mohammed A**; *Rituximab exerts its anti-arthritis effects via inhibiting NF- κ B/GM-CSF/iNOS signaling in B cells in a mouse model of collagen-induced arthritis*, Heliyon, 9, 6, 2023, Elsevier
- Alotaibi, Areej M; Alsaleh, Nasser B; Aljasham, Alanoud T; Tawfik, Essam A; Almutairi, Mohammed M; **Assiri, Mohammed A**; Alkholief, Musaed; Almutairi, Mashal M; *Silver nanoparticle-based combinations with antimicrobial agents against antimicrobial-resistant clinical isolates*, Antibiotics, 11, 9, 1219, 2022, MDPI
- Alqahtani, Faleh; **Assiri, Mohammed A**; Mohany, Mohamed; Imran, Imran; Javaid, Sana; Rasool, Muhammad Fawad; Shakeel, Waleed; Sivandzade, Farzane; Alanazi, Ahmed Z; Al-Rejaie, Salim S; *Coadministration of Ketamine and Perampanel Improves Behavioral Function and Reduces Inflammation in Acute Traumatic Brain Injury Mouse Model*, BioMed Research International, 1, 3193725, 2020, Hindawi
- Al-Harbi, Naif O; Imam, Faisal; Al-Harbi, Mohammad Matar; Aljeryan, Khaldoun; Al-Shabanah, Othman A; Alhosaini, Khaled A; Alqahtani, Lamya Saif; Afzal, Muhammad; Anwer, MD Khalid; Aldossari, Abdullah A; **Assiri, Mohammed A**; *Protective effect of Apremilast against LPS-induced acute lung injury via modulation of oxidative stress and inflammation*, Saudi Journal of Biological Sciences 29, 5, 3414-3424, 2022, Elsevier
- Alasmari, Fawaz; **Assiri, Mohammed A**; Ahamad, Syed Rizwan; Aljumayi, Sahar R; Alotaibi, Wedad H; Alhamdan, Majd M; Alhazzani, Khalid; Alharbi, Metab; Alqahtani, Faleh; Alasmari, Abdullah F; *Serum metabolomic analysis of male patients with cannabis or amphetamine use disorder*, Metabolites, 12, 2, 179, 2022, MDPI
- Harris, Peter S; Michel, Cole R; Yun, Youngho; McGinnis, Courtney D; **Assiri, Mohammed A**; Ahmadi, Ali Reza; Sun, Zhaoli; Roede, James R; Burchill, Matthew A; Orlicky, David J; *Proteomic analysis of alcohol-associated hepatitis reveals glycoprotein NMB (GPNMB) as a novel hepatic and serum biomarker*, Alcohol, 99, 35-48, 2022, Elsevier
- Ahmad, Sheikh F; Ansari, Mushtaq A; Nadeem, Ahmed; Bakheet, Saleh A; Al-Ayadhi, Laila Y; Alsaad, Abdulaziz MS; **Assiri, Mohammed A**; Al-Mazroua, Haneen A; Attia, Sabry M; *Upregulation of interleukin (IL)-31, a cytokine producing CXCR1 peripheral immune cells, contributes to the immune abnormalities of autism spectrum disorder*, Journal of neuroimmunology, 349, 577430, 2020, Elsevier
- Bakheet, Saleh A; Alrwashied, Bader S; Ansari, Mushtaq A; Nadeem, Ahmed; Attia, Sabry M; Alanazi, Mohammed M; Aldossari, Abdullah A; **Assiri, Mohammed A**; Mahmood, Hafiz M; Al-Mazroua, Haneen A; *CXC chemokine receptor 3 antagonist AMG487 shows potent anti-arthritis effects on collagen-induced arthritis by modifying B cell inflammatory profile*, Immunology letters, 225, 74-81, 2020, Elsevier
- Bakheet, Saleh A; Alrwashied, Bader S; Ansari, Mushtaq A; Nadeem, Ahmed; Attia, Sabry M; **Assiri, Mohammed A**; Alqahtani, Faleh; Ibrahim, Khalid E; Ahmad, Sheikh F; *CXCR3 antagonist AMG487 inhibits glucocorticoid-induced tumor necrosis factor-receptor-related protein and inflammatory mediators in CD45 expressing cells in collagen-induced arthritis mouse model*, International immunopharmacology, 106494, 2020 Elsevier
- Nadeem, Ahmed; Al-Harbi, Naif O; Ahmad, Sheikh F; Al-Harbi, Mohammed M; Alhamed, Abdullah S; Alfardan, Ali S; **Assiri, Mohammed A**; Ibrahim, Khalid E; Albassam, Hussam; *Blockade of interleukin-2-inducible T-cell kinase signaling attenuates acute lung injury in mice through adjustment of pulmonary Th17/Treg immune responses and reduction of oxidative stress*, International Immunopharmacology, 83, 106369, 2020, Elsevier

- Shearn, Colin T; Fennimore, Blair; Orlicky, David J; Gao, Yue R; Saba, Laura M; Battista, Kayla D; Aivazidis, Stefanos; **Assiri, Mohammed**; Harris, Peter S; Michel, Cole; *Cholestatic liver disease results increased production of reactive aldehydes and an atypical periportal hepatic antioxidant response*, Free Radical Biology and Medicine, 143, 101-114, 2019, Elsevier
- **Assiri, Mohammed A**; Roy, Samantha R; Harris, Peter S; Ali, Hadi; Liang, Yongliang; Shearn, Colin T; Orlicky, David J; Roede, James R; Hirschey, Matthew D; Backos, Donald S; *Chronic ethanol metabolism inhibits hepatic mitochondrial superoxide dismutase via lysine acetylation*, Alcoholism: Clinical and Experimental Research, 41, 10, 1705-1714, 2017, Wiley Online Library
- Ali, Hadi; Assiri, **Mohammed A**; Shearn, Colin T; Fritz, Kristofer S; *Lipid peroxidation derived reactive aldehydes in alcoholic liver disease*, Current opinion in toxicology, 13, 110-117, 2019, Elsevier
- Ali, Hadi R; **Assiri, Mohammed A**; Harris, Peter S; Michel, Cole R; Yun, Youngho; Marentette, John O; Huynh, Frank K; Orlicky, David J; Shearn, Colin T; Saba, Laura M; *Quantifying competition among mitochondrial protein acylation events induced by ethanol metabolism*, Journal of proteome research, 18, 4, 1513-1531, 2019, American Chemical Society
- **Assiri, Mohammed A**; Ali, Hadi R; Marentette, John O; Yun, Youngho; Liu, Juan; Hirschey, Matthew D; Saba, Laura M; Harris, Peter S; Fritz, Kristofer S; *Investigating RNA expression profiles altered by nicotinamide mononucleotide therapy in a chronic model of alcoholic liver disease*, Human Genomics, 13, 1-13, 2019, BioMed Central
- **Assiri, Mohammed**; Harris, Peter S; Ali, Hadi; Liang, Yongliang; Shearn, Colin T; Roede, James R; Backos, Donald S; Fritz, Kristofer S; *Chronic Ethanol Consumption Alters SOD2 Dynamics through Lysine Acetylation*, Free Radical Biology and Medicine, 100, S98-S99, 2016, Elsevier
- Korashy, Hesham M; Attafi, Ibraheem M; Ansari, Mushtaq A; **Assiri, Mohammed A**; Belali, Osamah M; Ahmad, Sheik F; Al-Alallah, Ibrahim A; Al Anazi, Fawaz E; Alhaider, Abdulqader A; *Molecular mechanisms of cardiotoxicity of gefitinib in vivo and in vitro rat cardiomyocyte: role of apoptosis and oxidative stress*, Toxicology letters, 252, 50-61, 2016, Elsevier

Presentations:

- *Involvement of Mitochondrial Protein Post Translational Modification in the Pathogenesis of Alcoholic Liver Disease*. Modern trends in targeted structure-based drug design and discovery. KAUST Research Conference 2022 Thuwal, Makkah region Saudi Arabia 2022.
- *Chronic Alcohol Consumption Alters Mitochondrial Protein Hyperacetylation and Induces Hepatic Oxidative Stress*. SOT 56th annual meeting Baltimore MD. March 12-16, 2017
- *Involvement of mitochondrial protein post translational modification in the pathogenesis of alcoholic liver disease*. Research day 2019 Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado Anschutz Medical Campus, Aurora, Colorado, USA

Posters:

- *Chronic Ethanol Consumption Alters SOD2 Dynamics via Increased Lysine Acetylation*. Gordon Research Conference on Oxygen Radicals held 02/07/2016 - 02/12/2016 at Ventura Beach Marriott in Ventura CA United States
- *Chronic Ethanol Metabolism Inhibits Hepatic Mitochondrial Superoxide Dismutase via Lysine Acetylation* 2017 "Alcohol-Induced End Organ Diseases" Gordon Research Conference March 26-31, 2017 Four Points Sheraton / Holiday Inn Express Ventura, CA United States

Laboratory Skills:

- Proteomics analyses: Western blotting, 2-dimensional electrophoresis, mass spectrometry
- Metabolomics: from sample preparation to data analysis and presentation
- RNA-sequencing: from RNA isolation to analysis and presentation of that data
- Animal handling: breeding, treatment (iv, ip, oral gavage), genotyping, organ harvesting, and
 - subcellular fractionation.

- CRISPR cas9
- Biological assays: plasma assays, vital organs toxicological evaluation
- Histology, preparing and conducting immunohistochemical assays analyses from sample preparation to data analysis and presentation
- Laboratory resources and personnel management.

Teaching:

- Biochemistry (undergraduate level)
- Basics of pharmacogenomics (undergraduate level)
- Pharmacology (graduate and undergraduate level)
- Environmental toxicology and risk assessment (graduate level)
- Forensic toxicology (graduate level)
- Molecular toxicology (graduate level)

Workshops and courses

- Metabolomics Hands-On Workshop (Skaggs School of Pharmacy Anschutz Medical Campus Aurora, CO)
- Teaching skills (Graduate School Anschutz Medical Campus Aurora, CO)

Awards and scholarships

- Scholarship from King Saud University to study PhD in Toxicology 2014-2019
- 2nd best poster in the redox conference University of Colorado Anschutz medical campus 2017
- Selected poster in University of Colorado Research day 2015

Mentoring:

- Enas Alsawaq PhD student at KSU 2023-present
- Nour Alenazi master student at KSU 2023-present
- Shuruq AlSuhaymi PhD student at KAUST 2020-present
- Sahar Al Jumayi Master students at KSU 2021-2023
- Norah Alzayed PharmD student at KSU 2020-2021
- Nouf Albogami PharmD student at KSU 2020-2021
- Stefanie Schwab PharmD. at CU Anschutz 2018-2019
- Simon Yun BSc. at CU Anschutz 2017-2019