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WORK EXPERIENCE

05/2021 to Present **Research scholar - technician**, University of Florida (UF), United States

I am working on research projects leaded by Dr. Bulitta at College of Pharmacy, UF Lake Nona, Orlando. My research work is focused on doing binding studies of β -lactam antibiotics with penicillin-binding Proteins (PBPs) in both purified membranes and whole cell assays. I used to do protein assay, SDS-PAGE electrophoresis, PBP binding assays, confocal microscopy and flow cytometry.

11/2018 to 03/2021 **Master student**, Fayoum University, Egypt

I did research for the M.Sc. degree at the National Research Center in Cairo and Fayoum University in a project entitled "Targeting human colon cancer by plant extracts belonging to family Agavaceae: in vitro tests". This study was focused in studying the anticancer effects of methanolic extracts of 15 Agave plants on human colon cancer cell line HCT-116. So, microscopic examination, biochemical assays and cytotoxicity studies were performed in cancer cell line HCT-116 and human normal epithelial cell line RPE1. I also did apoptosis-mediated assays to study the levels and activities of caspase-3, p35, Bcl-2 and Bax in addition to DNA fragmentation.

EDUCATION

2018 - 2021 **M.Sc. Biochemistry**, Fayoum University, Egypt

2011 - 2015 **B.Sc. in Biochemistry and Chemistry**, Fayoum University, Egypt

PUBLICATIONS

1. **Abeer A.S. Elsayed**, Ahmed A.F. Soliman, Amr A. Nassrallah, Soha M. Hamdy. *Anticancer and cytotoxic effects for Agave americana versus Agave micrantha extracts on human colon cancer cells in vitro*. Egypt. J. Exp. Biol. (Zoo.). 2020; 16(2): 129-134
2. One more manuscript from my thesis is still under review.

CONFERENCES

1. Sayed ARM, **Elsayed AAS**, Cadet KC, Jimenez-Nieves RH, Shin E, Moya B, Lang Y, Zhou J, Zhang Y, Werkman C, Tsuji BT, Drusano GL, Bulitta JB. *Time-course of whole-cell Penicillin-Binding Protein (PBP) binding and morphological alterations by eleven β -lactam antibiotics in Klebsiella pneumoniae (KP)*. ASM microbe, Houston, Texas, June 15-19, 2023
2. Sayed ARM, **Elsayed AAS**, Cadet KC, Jimenez-Nieves RH, Shin E, Moya B, Lang Y, Zhou J, Zhang Y, Werkman C, Tsuji BT, Bulitta JB. *Whole cell binding extents of ertapenem, ceftazidime, aztreonam, avibactam, and mecillinam with penicillin-Binding Proteins in Klebsiella pneumoniae*. NIAMRRE 2023 Annual Conference. Hilton University of Florida Conference Center, Gainesville, Florida, May 16-18, 2023.
3. Lang Y, Zhang Y, Zhou J, Myrick JR, Sayed ARM, **Elsayed A**, Werkman C, Shin E, Cadet KC, Jimenez-Nieves RH, Louie A, Drusano GL, Bulitta JB. *Combating Mycobacterium tuberculosis (Mtb) by mechanistic insights from a highly sensitive UPLC-MS/MS assay for the parent and M2 metabolite of bedaquiline associated with Mtb and their impact on mycobacterial energy metabolites*. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Copenhagen, Denmark; April 15-18, 2023.
4. Shin E, Sayed ARM, Lang Y, Zhang Y, Zhou J, Oyer JL, Moya B, **Elsayed A**, Sutaria DS, Shah NR, Werkman C, Jimenez-Nieves RH, Cadet KC, Tao X, Jiao Y, Copik AJ, Bonomo RA, Schweizer HP, Lee RE, Boyce JD, Louie A, Tsuji BT, Barth AL, Zavascki AP, Drusano GL, Bulitta JB. *Synergistic penicillin-binding protein (PBP) occupancy patterns in Klebsiella pneumoniae (KP) prospectively validated in a dynamic in vitro hollow fiber infection model*. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Copenhagen, Denmark; April 15-18, 2023.
5. Werkman C, Shah NR, Megroz M, Oyer JL, Deveson Lucas D, Moya B, Sayed ARM, **Elsayed A**, Wright A, Sutaria DS, Tao, X, Lang Y, Zhang Y, Zhou J, Shin E, Landersdorfer C, Jimenez-Nieves RH, Cadet K, Jiao Y, Copik AJ, Bonomo RA, Louie A, Drusano GL, Boyce JD, Bulitta JB. *Synergistic killing of Acinetobacter baumannii (AB) elicited by simultaneous inactivation of three or all four Penicillin-Binding Proteins (PBPs) among PBP1a, 1b, 2 and 3*. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Copenhagen, Denmark; April 15-18, 2023.
6. Sayed ARM, **Elsayed AAS**, Moya B, Cadet KC, Jimenez-Nieves RH, Shin E, Lang Y, Zhang Y, Werkmena C, Tsuji BT, Drusano GL, Bulitta JB. *Whole-cell Penicillin-Binding Protein (PBP) binding of ceftazidime, avibactam and aztreonam and elicited morphological changes in Klebsiella pneumoniae (KP)*.

33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Copenhagen, Denmark; April 15-18, 2023.

7. Werkman C, Shah NR, Lucas DD, Oyer JL, Megroz M, Moya B, Sayed ARM, **Elsayed A**, Wright A, Sutaria DS, Tao X, Lang Y, Zhou J, Shin E, Landersdorfer CB, Jimenez-Nieves RH, Cadet KC, Jiao Y, Copik AJ, Bonomo RA, Louie A, Drusano GL, Boyce JD, Bulitta JB. *Simultaneously inactivating three or all four Penicillin-Binding Proteins (PBPs) among PBP1a, 1b, 2 and 3 synergistically kills Acinetobacter baumannii (AB)*. AAPS PharmSci 360, Boston; October 16-19, 2022.
8. Sayed ARM, **Elsayed AAS**, Shah NR, Sutaria DS, Moya B, Lang Y, Shin E, Zhou J, Werkman C, Cadet K, Jimenez-Nieves RH, Tsuji BT, Louie A, Drusano GL, Bulitta JB. *Penicillin-Binding Protein (PBP) binding profiles in intact Klebsiella pneumoniae (KP) – characterizing the mass balance of penetration and binding in periplasm*. ASM Microbe, Hybrid: online and Washington, DC; June 9-13, 2022.
9. Shin E, Sayed ARM, Lang Y, Zhou J, Oyer JL, Moya B, **Elsayed AAS**, Sutaria DS, Shah NR, Werkman C, Jimenez-Nieves RH, Cadet K, Tao X, Jiao Y, Copik AJ, Bonomo RA, Schweizer HP, Lee RE, Boyce JD, Louie A, Tsuji BT, Drusano GL, Bulitta JB. *Mechanistic insights on synergistic killing of Klebsiella pneumoniae by double β -lactam combinations assessed via Flow Cytometry and Quantitative Systems Pharmacology (QSP)*. ASM Microbe, Hybrid: online and Washington, DC; June 9-13, 2022.
10. Werkman C, Shah NR, Deveson Lucas D, Oyer JL, Megroz M, Moya B, Sayed ARM, **Elsayed AAS**, Wright A, Sutaria DS, Tao X, Lang Y, Zhou J, Shin E, Landersdorfer CB, Jimenez-Nieves RH, Cadet K, Jiao Y, Copik AJ, Bonomo RA, Louie A, Drusano GL, Boyce JD, Bulitta JB. *Synergistic killing of Acinetobacter baumannii (AB) elicited by simultaneous inactivation of three or all four Penicillin-Binding Proteins (PBPs) among PBP1a, 1b, 2 and 3*. ASM Microbe, Hybrid: online and Washington, DC; June 9-13, 2022.
11. Sayed ARM, **Elsayed AAS**, Shah NR, Sutaria DS, Moya B, Lang Y, Shin E, Zhou J, Werkman C, Tsuji B, Louie A, Drusano GL, Bulitta JB. *First whole-cell penicillin-binding protein (PBP) binding profiles of carbapenems and cefoxitin in Klebsiella pneumoniae (KP) – characterizing the mass balance of penetration and binding in periplasm*. 32nd European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Hybrid: online and Lisbon, Portugal; April 23-26, 2022.
12. Shin E, Sayed ARM, Lang Y, Zhou J, Oyer J, Moya B, **Elsayed AAS**, Sutaria DS, Shah NR, Werkman C, Jimenez-Nieves RH, Cadet KC, Tao X, Jiao Y, Copik AJ, Bonomo RA, Schweizer HP, Lee RE, Boyce JD, Louie A, Tsuji BT, Drusano

- GL, Bulitta JB. *Synergistic Penicillin-Binding Protein (PBP) occupancy patterns against Klebsiella pneumoniae (KP) characterized via confocal microscopy, flow cytometry, and quantitative systems pharmacology*. 32nd European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Hybrid: online and Lisbon, Portugal; April 23-26, 2022. (Oral Presentation)
13. Werkman C, Shah NR, Deveson Lucas D, Oyer J, Megroz M, Moya B, Sayed ARM, **Elsayed AAS**, Wright A, Sutaria DS, Tao X, Lang Y, Zhou J, Shin E, Landersdorfer CB, Jimenez-Nieves RH, Cadet KC, Jiao Y, Copik AJ, Bonomo RA, Louie A, Drusano GL, Boyce JD, Bulitta JB. *Simultaneously inactivating three or all four Penicillin-binding Proteins (PBPs) among PBP1a, 1b, 2 and 3 synergistically kills Acinetobacter baumannii (AB)*. 32nd European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Hybrid: online and Lisbon, Portugal; April 23-26, 2022.
 14. Sayed ARM, **Elsayed AAS**, Shah NR, Sutaria DS, Shin E, Lang Y, Cadet K, Jimenez-Nieves RH, Zhou J, Werkman C, Tsuji BT, Louie A, Drusano GL, Bulitta JB. *Whole-cell PBP binding profiles for some carbapenems and ceftazidime in Klebsiella pneumoniae (KP)*. 35th Annual UF College of Pharmacy Research Showcase, Gainesville, FL; February 7-8, 2022.
 15. Shin E, Sayed ARM, Lang Y, Zhou J, Oyer JL, Moya B, **Elsayed AAS**, Sutaria DS, Shah NR, Werkman C, Jimenez-Nieves RH, Cadet K, Tao X, Jiao Y, Copik AJ, Bonomo RA, Schweizer HP, Lee RE, Boyce JD, Louie A, Tsuji BT, Drusano GL, Bulitta JB. *Synergistic killing of Klebsiella pneumoniae by double β -lactams combinations assessed via Flow Cytometry and Quantitative Systems Pharmacology*. 35th Annual UF College of Pharmacy Research Showcase, Gainesville, FL; February 7-8, 2022.
 16. Werkman C, Shah NR, Deveson Lucas D, Oyer JL, Megroz M, Moya B, Sayed ARM, **Elsayed AAS**, Wright A, Sutaria DS, Tao X, Lang Y, Zhou J, Shin E, Landersdorfer CB, Jimenez-Nieves RH, Cadet K, Jiao Y, Copik AJ, Bonomo RA, Louie A, Drusano GL, Boyce JD, Bulitta JB. *Synergistic receptor binding patterns elicited bacterial killing by simultaneous inactivation of Penicillin-Binding Proteins 1a, 1b, 2 and 3 in a resistance-deprived Acinetobacter baumannii*. 35th Annual UF College of Pharmacy Research Showcase, Gainesville, FL; February 7-8, 2022.