

Curriculum vitae

Name: Wesam Mohamed ElSayed Bassiouni Farag

Birth date: July 31, 1991

Birthplace: Egypt

Nationality: Egyptian

Military Service: Completed

Telephone: +1(780) 777-3746, (+2) 01283617419

E-mail: wesam@ualberta.ca

Education:

- 9/2019- Present: **PhD Student**; GPA: A⁺ (4), Department of Pharmacology, Faculty of Medicine and Dentistry, University of Alberta, Canada.
Under Supervision of: Prof. Dr. Richard Schulz, Prof. Dr. John Seubert
- 2/2018: **M.Sc. in Pharmaceutical Sciences** (Pharmacology and Toxicology), Faculty of Pharmacy, Alexandria University
Thesis title: Differential effects of prostanoids modulators on some tissues of genitourinary tract in rats
Under Supervision of: Prof. Dr. Tahia Daabees, Prof. Dr. Amira Senbel
- 10/2013- 6/2015: Intensive postgraduate courses of bioinformatics, mathematics and statistics, physical chemistry, advanced instrumental analysis, electrochemical separation, scientific writing biochemistry, physiology, advanced pharmacology and applied experimental pharmacology GPA: A (3.9), Faculty of Pharmacy, Alexandria University.
- 2013: B.Sc. of Pharmaceutical Sciences, Distinction of Honor, Faculty of Pharmacy, Alexandria University, Egypt.
“**Ranked Top of Class** (from over 1350 student)”
- 2008: Graduated at Mubarak Top School (MTS), Alexandria, Egypt.

Research Experiences:

- 9/2019- Present: Ph.D. Student, Department of Pharmacology, Faculty of Medicine and Dentistry, University of Alberta, Canada.
- 9/2014- 1/2018: M.Sc. Student, Department of Pharmacology, Faculty of Pharmacy, Alexandria University, Egypt.
- 9/2015- 3/2016: participated at “IMHOTEP” project (no. 31681XL) in PARIS/ FRANCE (University of Paris XIII) – Titled: Interaction of prostanoids with phosphodiesterase 5 inhibitors used in pulmonary hypertension & erectile dysfunction- under supervision of: Dr. Xavier Norel, Inserm U1148, University of Paris XIII, and Prof. Dr. Amira Senbel, Faculty of Pharmacy, Alexandria University, involving working for a period of 2 weeks at INSERM lab, Paris, France

Employment:

Academic employment

- 4/2018- 8/2019: Assistant lecturer of Pharmacology and Toxicology, Faculty of Pharmacy, Alexandria University.
- 3/2015- 3/2018: Demonstrator of Pharmacology, Toxicology, Biochemistry and Bioassay, Faculty of Pharmacy, Alexandria University.

Previous Employment:

- 2011- 2014: Community pharmacist at 2 Egyptian market pharmacies, Alexandria, Egypt

Administrative Experience:

- 10/2018- 8/2019: Quality Assurance Coordinator at the department of Pharmacology and Toxicology, Faculty of Pharmacy- Alexandria University
- 3/2015- 12/2018: Vice president of questionnaire committee at QAU at the Faculty of Pharmacy – Alexandria University

Teaching experience:

- 9/2013-8/2019: Teaching undergraduate laboratory courses of Pharmacology, Toxicology, Therapeutics, Biochemistry, and Biological Assay, Faculty of Pharmacy, Alexandria University.
- 2017: participated at project “IT –based International Diploma and Professional Certificate in Clinical Toxicology (ITCT)” Co-funded by ERASMUS and program of the European Union.

Skills:

Research:

- Animal care and handling for *in-vivo* and *in-vitro* experiments, small animal surgery, blood sample collection and drug administration via different routes.
- Isolated mouse perfused heart (Langendorff technique).
- Cell Culture and in vitro assays.
- Western Blotting, Gelatin Zymography, PCR genotyping.
- Measurement of blood pressure and heart rate in rats.
- Measurement of intracavernosal pressure in rats.
- Tissue bath experiments: rat vas deferens, rat corpus cavernosum and rat urinary bladder.

Computer Skills:

- Microsoft Office (Including many of the Internet tools)
- Statistics programs: GraphPad InStat, GraphPad Prism, SPSS.
- Having the “**International Computer Driving License**” in 7/2011

Language:

- English: Excellent written and spoken command of English Language.

- Arabic: Mother tongue

Students Activities & Volunteering:

- 2021: a member of One for the World, an intercollegiate organization which mission is to eradicate extreme poverty in the developing world by expanding awareness of effective philanthropy and supporting the world's most impactful organizations and charities.
- 2020: Volunteering with the Edmonton and Area Land Trust (EALT). EALT works to protect natural areas in and around Edmonton to benefit wildlife and people, and to conserve biodiversity and all nature's values.
- 2019-2020: participated in proctoring midterm and final exams for undergraduate students at the Department of Pharmacology, Faculty of Medicine and Dentistry, University of Alberta and fund raising for Pharmacology Research Day 2020, University of Alberta, Canada
- 2018: Academic advisor at "Pharmpedia"- a student organization at the Faculty of Pharmacy, Alexandria University, targeting to fill in gap between the academic learning and practice.
- 2018: Scientific organization of case studies campaign as a part of "Alexandria Scientific Pharmaceutical Students' Association" ASPSA activities
- 2016: Academic Supervisor at "Alexandria Pharmacy Science Club" APSC, Faculty of Pharmacy, Alexandria University- a student organization concerned with organizing events for pharmacy students in different scientific fields.
- 2012: participated at "Health Organization Simulation Society" HOSS project, Faculty of Pharmacy, Alexandria University, Scientific committee; a program simulating the World Health Organization (WHO) targeting to provide statistics for epidemic diseases in Egypt- Academic Committee.

Training Courses and Workshops:

- "Libin International Trainee Symposium". Sex and Gender Difference in Research. Banff, Alberta, Canada. Upcoming in Feb 2020.
- "Copyrights", "Human and Animal Research Ethics", 3 hr workshops, Faculty of Graduate Studies and Research, University of Alberta, Oct 2019.
- "Chemical Security and Vulnerability Assessment and Risk Mitigation for the Pharmaceutical Industry", Cairo, Egypt, 5 days workshop, Sep 2018- in cooperation with the US Department of State, Sandia National Laboratories (operated by national technology and engineering solutions of Sandi, LLC.)
- "Basic Techniques in Cell Culture and Stem Cell Research", Medical Research Institute, Medical Technology Center, 3 days workshop, Jan 2018.
- Faculty and Leadership Development Center (FLDC), Alexandria University
 - "Research Ethics and Plagiarism", (12 hr), June 2019
 - "Exams and Students in the Education System", (12 hr), Aug 2018
 - "Quality Standards in Teaching Process", (12 hr), July 2018
 - "Communication and Presentation Skills", (12 hr), June 2017

- “Rights and Responsibilities of Faculty Staff Assistants”, (12 hr), May 2017
- “Research Methods”, (12 hr), May 2017
- “Use of Global Databases”, (12 hr), May 2017
- “Design Systems and Statistical Analysis of Scientific Experiments”, (24 hr), May 2017
- “Organizing Scientific Conferences”, (12 hr), August 2014
- “Egyptian Knowledge Bank and ClinicalKey” (workshop), Faculty of Pharmacy, Alexandria University, May 2017
- Training at Pharco Pharmaceutical Inc. (5 days), August 2012.
- First aid course at Alexandria Medical Syndicate. (2 weeks), July 2009

Oral Presentations:

- “Staurosporine-induced cleavage of apoptosis-inducing factor in human fibrosarcoma cells is independent of matrix metalloproteinase-2 or calpain”. 3MT, Pharmacology Research Day. University of Alberta, AB, Canada-5/2021
- “Anthracycline may induce detrimental matrix metalloproteinase-2 mediated cleavage of junctophilin-2 and heart remodeling in mice”. British Pharmacological Society, 12/2020
- “The role of matrix metalloproteinase-2 in junctophilin-2 cleavage during doxorubicin-induced cardiotoxicity”, Pharmacology Chair’s Seminars, Department of Pharmacology, University of Alberta, AB, Canada- 8/2020
- “How sex and gender differences could affect the pathological role of MMP-2 in cardiovascular diseases?”, Libin International Trainee Symposium: Research is Better with Sex and Gender! Banff, Alberta, Canada- 2/2020
- “The relaxant effect of some prostanoids on rat corpus cavernosum and their interaction with nitric oxide/cGMP pathway”, 2nd Annual scientific conference, Department of Pharmacology and Toxicology, Faculty of Pharmacy, Alexandria University- 8/2016
- “Role of prostanoids in lower genitourinary tract function”, INSERM lab, Paris, France- 9/2015

Awards:

- **“APS International Early Career Physiologist Travel Award”**, 1000 USD, April 2022, American Physiological Society.
- **“Dr. Edwin E. Daniel Pharmacology Graduate Award”**, 5182 CAD, Feb 2021, Department of Pharmacology, Faculty of Medicine & Dentistry, University of Alberta.
- **“Alberta Innovates Graduate Student Scholarship”**, 31000 CAD/year, Jan 2020-present, University of Alberta.
- **“Libin Trainee Symposium Travel Award”** 250 CAD, Feb 2020, Libin Cardiovascular Institute, University of Calgary.
- **“Alberta Graduate Excellence Scholarship”**, 12000 CAD, Sep 2019-Mar 2020, University of Alberta.
- **“Alexandria University Top Students Award”**- Science day 2016, Bibliotheca Alexandria, Egypt.

- **“First Place Presenter”**, 2nd Annual scientific conference, department of Pharmacology and Toxicology, Faculty of Pharmacy, Alexandria University- 8/2016
- **“First Place Pharmacy Students Award”**-Faculty of Pharmacy, Alexandria University- 2013

Peer-Reviewed Publications:

In Press/Published

1. **Wesam Bassiouni**, John M. Seubert, Richard Schulz (2021). Staurosporine-induced cleavage of apoptosis-inducing factor in human fibrosarcoma cells is independent of matrix metalloproteinase-2. *Can J Physiol Pharmacol.* 1:1-8. (In Press)
2. **Wesam Bassiouni**, Mohammad A.M Ali, Richard Schulz (2021). Multifunctional intracellular matrix metalloproteinases: implications in disease. *FEBS J.* 288:7162-82.
3. Ahmed M. Darwesh, **Wesam Bassiouni**, Deanna K. Sosnowski, John M. Seubert (2021). Can N-3 polyunsaturated fatty acids be considered a potential adjuvant therapy for COVID-19-associated cardiovascular complications? *Pharmacol Ther.* 219:107703.
4. Ahmed M. Darwesh, **Wesam Bassiouni**, Adeniyi Michael Adebesein, Abdul Sattar Mohammad, John R. Falck, John M. Seubert (2020). A synthetic epoxydocosapentaenoic acid analogue ameliorates cardiac ischemia/reperfusion injury: the involvement of the sirtuin 3-NLRP3 pathway. *Int J Mol Sci.* 21:5261.
5. Norel X, Sugimoto Y, Ozen G, Abdelazeem H, Amgoud Y, Bouhadoun A, **Bassiouni W**, Goepf M, Mani S, Manikpurage H, Senbel A, Longrois D, Heinemann A, Yao C, Clapp LH (2020). Differences and similarities between human and rodent prostaglandin E2 receptors (EP1-4) and prostacyclin receptor (IP): specific roles in pathophysiologic conditions. *Pharmacol Rev.* 72:910-68.
6. **Wesam Bassiouni**, Amira Senbel, Xavier Norel, Tahia Daabees (2019). Sildenafil corrects the increased contractility of rat detrusor muscle induced by alprostadil in vitro. *Pharmacol Rep.* 71:659-68.
7. **Wesam Bassiouni**, Tahia Daabees, Liliane Louedec, Xavier Norel, Amira Senbel (2019). Evaluation of some prostaglandins modulators on rat corpus cavernosum in-vitro: is relaxation negatively affected by COX- inhibitors? *Biomed Pharmacother.* 111:1458-66.
8. **Wesam Bassiouni**, Tahia Daabees, Xavier Norel, Amira Senbel (2019). Hypoactivity of rat detrusor muscle in a model of cystitis: exacerbation by non-selective COX-inhibitors and amelioration by a selective DP1 receptor antagonist. *Naunyn Schmiedebergs Arch Pharmacol.* 392:437-50.

Abstracts:

1. **Wesam Bassiouni**, John M. Seubert, Richard Schulz. Loss of Mitochondrial Dynamics Proteins Mitofusin-2 and Drp-1 in Myocardial Ischemia-Reperfusion Injury Is Prevented by Matrix Metalloproteinase-2 Preferring Inhibitors. Experimental Biology Conference. Philadelphia, Pennsylvania, USA. April 2022 (Accepted).
2. **Wesam Bassiouni**, John M. Seubert, Richard Schulz. Staurosporine-induced cleavage of apoptosis-inducing factor in human fibrosarcoma cells is independent of matrix

- metalloproteinase-2 or calpain. Pharmacy Research Day & Pharmacology Research Day. May 2021. University of Alberta, AB, Canada.
3. **Wesam Bassiouni**, Brandon Y.H. Chan, Andrej Roczkowsky, Richard Schulz. Anthracycline may induce detrimental matrix metalloproteinase-2 mediated cleavage of junctophilin-2 and heart remodeling in mice. British Pharmacological Society. UK, Dec 2020 (Online Conference).
 4. Ahmed M. Darwesh, Tariq R. Altamimi, K. Lockhart Jamieson, **Wesam Bassiouni**, Hao Zhang, Gavin Y. Oudit, Gary D. Lopaschuk, John M. Seubert. Epoxy metabolite of docosahexanoic acid ameliorates cardiac ischemia-reperfusion injury by stimulating mitochondrial sirtuin 3. 18th International Winter Eicosanoids Conference, Oct 2020 (Online Conference).
 5. Ahmed M. Darwesh, Tariq R. Altamimi, K. Lockhart Jamieson, **Wesam Bassiouni**, Hao Zhang, Gavin Y. Oudit, Gary D. Lopaschuk, John M. Seubert. 19,20-Epoxydocosapentaenoic acid ameliorates cardiac ischemia-reperfusion injury by stimulating mitochondrial sirtuin 3. The FASEB journal. Experimental Biology Conference, April 2020. San Diego, California, USA.
 6. Ahmed M. Darwesh, Tariq R. Altamimi, K. Lockhart Jamieson, **Wesam Bassiouni**, Hao Zhang, Gavin Y. Oudit, Gary D. Lopaschuk, John M. Seubert. Cytochrome P450-derived epoxy lipids of n-3 PUFAs protect the heart from ischemia-reperfusion injury by regulating mitochondrial sirtuin 3. Pharmacy Research Day 2019. Nov 2019. University of Alberta, AB, Canada.
 7. **Wesam Bassiouni**, Tahia Daabees, Xavier Norel, Amira Senbel. Contraction induced by EP1 receptors activation in rat detrusor muscle is counteracted by the NO/cGMP pathway. Poster session; 7th European Workshop on Lipid Mediators; Sep. 2018. Brussels, Belgium.
 8. **Wesam Bassiouni**, Amira Senbel, Tahia Daabees. Effect of some cyclooxygenase inhibitors on rat isolated corpus cavernosum and their possible interaction with nitric oxide pathway. Safety Pharmacological Society 2017 Annual Meeting Berlin, Germany, September 24-27, 2017. Published in the Journal of Pharmacological and Toxicological Methods 93:153, October 2018.
 9. Amira Senbel, **Wesam Bassiouni**, Tahia Daabees. Rat detrusor muscle and vas deferens reactivity are negatively affected by diclofenac and indomethacin. 3rd International Caparica Conference on Urinomics & Translational Nephrology, September 2017, Portugal.
 10. Amira Senbel, **Wesam Bassiouni**, Tahia Daabees. Effect of some prostanoids modulators and cyclooxygenase inhibitors on rat bladder detrusor muscle in normal and cyclophosphamide-induced cystitis. Inflammatory and immune based diseases and treatments, 13th Congress of the European Association for Clinical Pharmacology and Therapeutics, June 2017, Prague. Published in Clinical Therapeutics 39:e75, July 2017.
 11. **Wesam Bassiouni**, Amira Senbel, Tahia Daabees, Xavier Norel. The relaxant effect of some prostanoids on rat corpus cavernosum and their interaction with nitric oxide /cGMP pathway. Poster session; 6th European Workshop on Lipid Mediators; Sep. 2016. Frankfurt, Germany.

Membership:

- American Physiological Society (APS)
- British Pharmacological Society (BPS).
- Society for Experimental Biology and Medicine (SEBM).
- Women and Children's Health Research Institute (WCHRI).

- Cancer Research Institute of Northern Alberta (CRINA).
- Mazankowski Alberta Heart Institute (MAHI).
- Cardiovascular Research Centre.
- Egyptian Student Association (ESA), Edmonton, Alberta, Canada.
- Egyptian Pharmacists Syndicate, Egypt.

- *References are available upon request*