

Abu-Baker M. Abdel-Aal, PhD

Senior Lecturer, UPSI, Malaysia
Lecturer, Assiut University, Egypt

Former positions

- Francis Crick Institute Fellow (UK)
- University of Georgia Fellow (USA)
- University of Queensland Fellow (AUS)



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EDUCATION

- Ph.D., Chemistry, University of Queensland, Australia, 2009
- M. Sci., Pharm. Organic Chemistry, Assiut University, Egypt, 2003
- B. Pharm, Pharmacy, Assiut, University, Egypt, 1997

TEACHING AND RESEARCH EXPERIENCE

- Senior Lecturer, UPSI, Malaysia, 2022-todate
- Lecturer, Assiut University, Egypt, 2016-todate
- Career Development Fellow, Francis Crick Institute, UK, 2013-2016
- Postdoctoral Fellow, University of Georgia, USA, 2010-2012
- Teaching Assistant, University of Queensland, Australia, 2006-2009
- Teaching Assistant, Assiut University, Egypt, 1999-2005

SELECTED PUBLICATIONS

Book Chapter

1. Abdel-Aal AB.M., Raz R., Papageorgiou G., Offer J. (2020) Synthesis of Amide Backbone-Modified Peptides. In: Hussein W., Skwarczynski M., Toth I. (eds) Peptide Synthesis. Methods in Molecular Biology, vol 2103. Humana, New York, NY

Refereed Journal Publications

2. Shin, S.-H.; Ye, M.-K.; Chae, M.-H.; Geum, S.-Y.; Aboraia, A.S.; Abdel-Aal, A.-B.M.; Qayed, W.S.; Abd El-wahab, H.A.A.; Abou-Ghadir, O.F.; Aboul-Fadl, T. Effects of Lidocaine-Derived Organic Compounds on Eosinophil Activation and Survival. *Molecules* **2023**, *28*, 5696.
3. Ali, F.; Salem, O. I. A.; El-Mokhtar, M. A.; Aboraia, A. S.; Abdel-Moty, S. G.; Abdel-Aal, A. M. Design, synthesis and antiproliferative evaluation of lipidated 1,3-diaryl propenones and their cyclized pyrimidine derivatives as tubulin polymerization inhibitors. *Results in Chemistry* **2023**, *6*, 101016
4. Mohamed, S. M.; Abou-Ghadir, O. M. F.; El-Mokhtar, M. A.; Aboraia, A. S.; Abdel-Aal A. M. Fatty Acid Conjugated Chalcones as Tubulin Polymerization Inhibitors: Design, Synthesis, QSAR, and Apoptotic and Antiproliferative Activity. *J Nat Prod.* **2023**, *86* (5), 1150-1158.

5. Ahmed El-Kardocy, Yaser A Mostafa, Noha G Mohamed, Mohammad Nabil Abo-Zeid, Nivin A Hassan, Helal F Hetta, Abu-Baker M. Abdel-Aal. CK2 inhibition, lipophilicity and anticancer activity of new N1 versus N2-substituted tetrabromobenzotriazole regioisomers. *New J. Chem.*, **2020**, 44, 13007-13017.
6. Yasser M. Omar, Noha G. Mohamed, Andrew N. Boshra, Abu-Baker M. Abdel-Aal. Solvent-Free *N*-Formylation: An Experimental Application of Basic Concepts and Techniques of Organic Chemistry. *J. Chem. Educ.* **2020**, 97, 4, 1134–1138.
7. Fabienne Burlina, Abu-Baker M. Abdel-Aal, Richard Raz, Irene Pinzuti, George Papageorgiou, Jiejun Li, Robin Antrobus, Stephen R. Martin, Simone Kunzelmann, Benjamin Stieglitz, John Offer. Auxiliary-assisted chemical ubiquitylation of NEMO and linear extension by HOIP. *Communications Chemistry* **2019**, 2, 111.
8. Abdel-Aal, A.-B. M.; Papageorgiou, G.; Quibell, M.; Offer, Automated synthesis of backbone-protected peptides. *J. Chemical Communications* **2014**; 50(61): 8316-8319.
9. Abdel-Aal, A.-B. M.; Lakshminarayanan, V.; Thompson, P.; Supekar, N.; Bradley, J. M.; Wolfert, M. A.; Cohen, P. A.; Gendler, S. J.; Boons, G.-J. Immune and Anticancer Responses Elicited by Fully Synthetic Aberrantly Glycosylated MUC1 Tripartite Vaccines Modified by a TLR2 or TLR9 Agonist. *ChemBioChem* **2014**; 15(10): 1508-1513.
10. Abdel-Aal, Abu-Baker; El-Naggar, Dina; Zaman, Mehruz; Batzloff, Michael; Toth, Istvan. Design of fully synthetic, self-adjuvanting vaccine incorporating the tumor-associated carbohydrate Tn antigen and lipoamino acid-based toll-like receptor 2 ligand. *J. Med. Chem.*, **2012**; 55(15):6968-74.
11. Abdel-Aal, A.-B. M.; Batzloff, M. R.; Fujita, Y.; Barozzi, N.; Faria, A.; Simerska, P.; Moyle, P. M.; Good, M. F.; Toth, I. Structure-activity relationship of a series of synthetic lipopeptide self-adjuvanting group A streptococcal vaccine candidates. *J. Med. Chem.* **2008**, 51, 167-172.

Selected Conference Oral Presentations and Proceedings

12. Abdel-Aal, A. B. M., Papageorgiou, G., Offer, J., “Novel approaches to the synthesis of difficult peptides”, 33rd European Peptide Symposium, 31 Aug-5 Sep 2014, Sofia, Bulgaria (*J. Pep. Sci.* 20: S154-S154).
13. Abu-Baker M. Abdel-Aal, “Design of Fully Synthetic Glycopeptide-based breast cancer vaccine”, 4th PPSG Early Stage Researcher Meeting, the University of Durham, Collingwood College, UK, 11-11-**2013**.
14. Abu-Baker M. Abdel-Aal, Mehruz Zaman, Michael Batzloff, Yoshio Fujita, Istvan Toth, Michael F. Good.: Molecular Geometry: New Dimension in the Design of Mucosal vaccines against Group A streptococcal infection. World Congress of Vaccine (WCV 2008), Foshan, China, December 1-5, **2008**.
15. Abdel-Aal A.-B. M., Zaman M., Fujita Y., Simerska P., Batzloff M.R., Good M.F., Toth I.: Towards the development of an intranasal vaccine against group A Streptococcus. The Australian Chapter of the Controlled release Society

Symposium/Annual Conference of the Australasian Pharmaceutical Science Association (AUS-CRS/APSA), Manly, Sydney (NSW, Australia). 8.-11.12.2007.

AWARDS, GRANTS AND FELLOWSHIPS

- Best poster presentation: The 5th meeting organized by the Protein & Peptide Science Group (PPSG) of the Royal Society of Chemistry (RSC), London, United Kingdom, **2014**
- STDF-15065, 1,000,000 L.E. Title: Novel Synthetic Inhibitors of Eosinophils with Potential Anti-asthmatic Activity (STDF- Egypt, **2016-2018**)
- Postgraduate Conference Travel Award (University of Queensland, Australia, **2008**)
- Francine Kroesen Travel Fellowship (University of Queensland, Australia, **2007**)
- Arlo D. Harris Travel Scholarship (University of Queensland, Australia, **2007**)
- Graduate Scholarship Research Travel Grant (University of Queensland, Australia, **2007**)
- Best poster presentation: The Australian Chapter of the Controlled Release Society Symposium and the Annual Conference of the Australasian Pharmaceutical Science Association (AUS-CRS/APSA), Sydney, Australia, **2007**.
- Egyptian government study-abroad PhD scholarship (**2005-2009**)

PROFESSIONAL MEMBERSHIPS

- Egyptian Pharmacist Syndicate Membership
- American Society of Pharmacology Membership
- Reviewer at the New Journal of Chemistry, Royal Society of Chemistry
- Reviewer at the European Journal of Medicinal Chemistry, Elsevier
- Reviewer at the Current Organic Chemistry, Bentham Science Publishers B.V.

RESEARCH STUDENT SUPERVISED

- Samia M. Mohamed, PhD student 2020-present, Assuit University, Egypt
- Dina El-Naggar, PhD student 2008-2009, School of Chemistry and Molecular Biosciences, University of Queensland, Australia
- Fatma Abdel-Rahman, Master Student 2019-2023, Assuit University, Egypt
- Dina Abdallah, Master Student 2019-present, Assuit University, Egypt
- Samia M. Mohamed, Master Student 2017-2019, Assuit University, Egypt
- Khalifa Al-Isaee, Master Student 2006-2007, School of Molecular and Microbial science, University of Queensland, Australia
- Ahmed El-Kardocy, Undergraduate student 2018-2019, Assuit University, Egypt
- Mehruz Zaman, Honors student 2007-2008, School of Molecular and Microbial science, University of Queensland, Australia
- Andrew Lord, Honors student 2006-2007, Pharmacy School, University of Queensland, Australia