

Magid Abou-Gharbia, Ph.D., FRSC
*Laura H. Carnell Professor of
Pharmaceutical Sciences*
*Founding Director, Moulder Center
for Drug Discovery Research*



Magid Abou-Gharbia is a Laura H. Carnell of Pharmaceutical Sciences at Temple University's School of Pharmacy, Magid joined Temple University in 2008 following his 26-year tenure as a medicinal chemistry researcher and leader in the pharmaceutical industry, where he rose through the ranks to ultimately become Senior Vice President for Chemical and Screening Sciences at Wyeth Research (now part of Pfizer). Magid led teams that delivered numerous new chemical entities into clinical evaluation and identified 10 Marketed innovative benefiting millions of patients worldwide, including blockbuster and First in Class drugs such the antidepressants Serotonin and Norepinephrine Reuptake inhibitors Effexor® and Pristiq®, the First FDA approved antibody-drug conjugate anticancer Mylotarg®, and Tygacil®, an innovative antibiotic for treating resistant bacterial infections.

In 2008 Magid transitioned to academia joining School of Pharmacy at Temple University where he founded the Moulder Center for Drug Discovery Research, a medicinal chemistry-centric academic drug discovery organization whose mission is focused on the discovery of novel drugs for unmet medical needs, provide guidance to academic researchers and training new generations of drug discovery scientists. Under his leadership, the Moulder Center identified novel drug candidates for the treatments for cocaine and alcohol addiction, metabolic disorders, cancer, and lysosomal storage diseases, which led to the formation of 4 spin off companies based on licensing of his Center's IP to external companies. <https://www.youtube.com/watch?v=2yotuH6ZU0c>

Dr. Abou-Gharbia has held a number of leadership positions since joining Temple. He served as School of Pharmacy's **Associate Dean for Research (2008-2019)** and as the **Director of the Moulder Center for Drug Discovery Research (2008-2020)**. In recognition of his contributions and successes he was named Laura H. Carnell Professor in 2013 and receiving Temple University Outstanding Service Award in 2022.

Magid's research has resulted in over 130 publications in peer reviewed journals. He has co-authored 5 book chapters and delivered over 235 presentations as an invited lecturer at scientific conferences and academic institutions worldwide. He holds over 125 issued US patents and over 350 issued world patents. Magid has received numerous awards in recognition for his research contributions including two ACS Heroes of Chemistry awards for discovery of Effexor® and Torisel®, Induction into New Jersey Inventors Hall of Fame and the ACS Medicinal Chemistry Hall of Fame, Proctor Medal, Chemical Pioneer Award, Pennsylvania Bio Award and Educator of the Year Award, Grand Hamdan Award for

Excellence in Biomedical Sciences and Drug Discovery. He is a Fellow of both the American Chemical Society and the Royal Society of Chemistry and hold adjunct professorship position at various academic institutions in the US and abroad and is on the board of several scientific and Professional organizations.

RESEARCH INTERESTS:

- Manipulation of synthetic approaches in the design and synthesis of biologically active agents. Methodologies included: 1,3-dipolar cycloaddition reactions, Claisen's rearrangement, Diels-Alder reactions, chemistry of ketenes, sulfilimines, synthesis of substituted steroids.
- Use of receptor homology, bioisosteric replacement strategies, rational and structure-based drug design approaches
- Utilizing natural products as a unique resource for discovering innovative therapeutics.
- Applying enabling technology platforms to evaluate drug-like properties of all discovered molecules to ensure clinical effectiveness of drug candidates.
- Design of chemical probes in support of translational medicine

Research Areas include: Addiction and Substance Abuse, Cancer, CNS Disorders (Depression, Anxiety, Cerebral Palsy), RSV and COVID-19 infections.



Fig1: Dedication of the Moulder Center for Drug Discovery Research (2009)



Fig 2: Moulder Center Team Prior the 10th anniversary (2019)

Publications: 130 (Peer reviewed)

<https://scholar.google.com/citations?user=9IstbyMAAAAJ&hl=en&oi=ao>

Selected Publications:

1. MC-100093, reduces sex-specific ethanol preference and depressive-like behaviors in mice, Brandon Emanuel Leon, Lee Peyton, Hesham Essa, Tia Wieden, Nicole Marion, Wayne C. Childers, **Magid Abou-Gharbia**, Doo-Sup Choi, *Neuropharmacology*, 232, 109515, **2023**.
2. Effects of a Novel beta lactam compound MC-100093 on the expression of glutamate transporters/receptors and ethanol drinking behavior of alcohol preferring rats, Hassan Alhadad, Woonyen Wong, **Magid Abou-Gharbia**, Wayne Childers, Edward Melenski, Richard Richard L Bell and Youssef Sari, *J.Pharmacol.Exp.Ther.*, 383(3): 208–216, **2022**.
3. MC-100093, a novel B-lactam GLT-1 enhancer devoid of antimicrobial properties attenuates cocaine relapse in rats, L. A. Knackstedt, L. Wu, J. D. Rothstein, S. Vidensky, J. Gordon, M. Ramanjulu, P. Dunman, B. Blass, W. Childers, **M. Abou-Gharbia**, *J. Pharmacol. Exp. Ther.*, 378 (2) 51-59, **2021**
4. “I’ll be Back”: The Resurrection of Dezacine, Wayne Childers and **Magid Abou-Gharbia**, *ACS Med.Che.Lett.*, 12(6): 961-968, **2021**
5. Discovery of Novel Class of Histone Deacetylase Inhibitors as Potential Anticancer Agents, R. El-Awady, E. Saleh, R. Hamoude, W. S. Ramadan, R. Mzaitchek, M. A. Nael,

- K. M. Elokely, **M. Abou-Gharbia**, W. E. Childers, V. Srinivasulu, L. Aloum, V. Menon, T. H. Al-Tel, *Bioorg. Med. Chem.* **2021**,
6. The Resurrection of Phenotypic Drug Discovery, Wayne E. Childers, Khaled M. Elokely and **Magid-Abou-Gharbia**, *ACS Med.Chem.Lett.*, *11*, 1820-1828, **2020**.
 7. Discovery and SAR of Novel Di-substituted Quinazolines as Dual PI3Kalpha/m TOR Inhibitors Targeting Breast Cancer, Aisha A. K. Al-Ashmawy , Khaled M. Elokely, Oscar Perez-Leal, Mario C. Rico, John Gordon, George Mateo, **Magid Abou-Gharbia** and Wayne Childers, *ACS Med.Chem.Lett.*, *11*, *11*, 2156-2164, **2020**.
 8. Novel compounds that reverse the diseased phenotype in Type 2 Gaucher's disease patient-derived cells, M. Jacobson, W.Childers, R. Fan, R. Martinez, D. Colussi, E. Melenski, Y. Liu, J.gordon and **M. Abou-Gharbia**, *Biorg & MedChem Lett*,*30*, 126806, **2020**.
 9. Targeting CDK9 reactivates epigenetically silenced genes in cancer Hanghang Zhang, Somnath Pandey, Meghan Travers, Jittasak Khowsathit, George Morton, Hongxing Sun, Carlos Barrero, Carmen Merali, Yasuyuki Okamoto, Takahiro Sato, Judit Garriga, Natarajan Bhanu, Bela Patel, Jozef Madzo, Noël J.-M. Raynal, Benjamin Garcia, Marlene A. Jacobson, Salim Merali, Yi Zhang, Wayne Childers, **Magid Abou-Gharbia**, John Karanicolas, Stephen B. Baylin, Cynthia Zahnow, Jaroslav Jelinek, Xavier Graña and Jean-Pierre J. Issa, *Cell*, *175*, 1244-1258, **2018**.

Patents: 125 issued US Patents & >350 Wold Patents

<https://patents.justia.com/inventor/magid-a-abou-gharbia>

Selected Patents:

Functionalized N,N-dialkylamino phenyl ethers and their method of use

1. **Magid A. Abou-Gharbia**, Wayne E. Childers, Marlene A. Jacobson, Rong Fan, Rogelio L. Martinez, **US Patent number: 11873267 (2024)**
2. Edward G. Melenski, Wayne E. Childers, Marlene A. Jacobson, **Magid A. Abou-Gharbia**, **US Patent number: 11325883 (2022)**

5-hydroxytryptamine receptor 7 activity modulators and their method of use

3. Daniel J. Canney, Benjamin E. Blass, Rong Gao, **Magid Abou-Gharbia**, **US Patent number: 11192871 (2022)**
4. Daniel J. Canney, Benjamin E. Blass, Rong Gao, **Magid Abou-Gharbia**, **US Patent number: 1054411 (2020)**
5. Daniel J. Canney, Benjamin E. Blass, Rong Gao, **Magid Abou-Gharbia**, **US Patent number: 10676464 (2019)**.
6. Daniel J. Canney, Benjamin E. Blass, Rong Gao, **Magid Abou-Gharbia**, **US Patent number: 10287274 (2019)**

Bridged bicycloalkyl-substituted aminothiazoles and their methods of use

7. Wayne C. Childers, **Magid A. Abou-Gharbia**, George C. Morton, Jean-Pierre J. Issa, Hanghang Zhang **US Patent number: 10941126 (2021)**

Beta lactams as modulators of glutamate uptake and methods for use thereof

8. Magid A. Abou-Gharbia, Benjamin E. Blass, Wayne E. Childers, Mercy Ramanjulu, George C. Morton, **US Patent number: 10759750 (2020)**
9. Magid Abou-Gharbia, Wayne E. Childers, Rogelio L. Martinez, Mercy M. Ramanjulu, Benjamin E. Blass **US Patent number: 9975879 (2018)**

Anti-PCSK9 compounds and methods for the treatment and/or prevention of cardiovascular diseases

10. Sherin Salaheldin Abdel-Meguid, Magid Abou-Gharbia, Benjamin Blass, Wayne Childers, Nabil Elshourbagy, Victor Ghidu, Rogelio Martinez, Harold Meyers, Shaker A. Mousa, **US Patent number: 10131637 (2018)**

Ethers of O-desmethyl venlafaxine

11. John P. Yardley, Magid A. Abou-Gharbia, John W. Ullrich, **US Patent number: 7291646 (2007)**

Branched adamantyl and noradamantyl aryl- and aralkylpiperazines with serotonin 5-HT1A activity

12. Wayne E. Childers, Jr., Horace Fletcher, III, Magid A. Abou-Gharbia, John P. Yardley **US Patent number: 6831084 (2004)**

Carbamates of Rapamycin

13. Skotnicki, Y. Palmer, W. Kao and M.A. Abou-Gharbia, **U.S. Patent Number 5,567,709 (1996)**