Hakeem O. Lawal, PhD

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EDUCATION

Post Doctoral Scholarship, Psychiatry and Biobehavioral Sciences, February 2008-June 2013
David Geffen School of Medicine at the University of California, Los Angeles CA

Ph.D., Molecular and Cell Biology, May 2008
The University of Alabama, Tuscaloosa AL

M.S., Molecular and Cell Biology, May 2007
The University of Alabama, Tuscaloosa AL

B.S., Microbiology, December 2001
University of Lagos, Lagos Nigeria

PROFESSIONAL EXPERIENCE

Neuroscience Assistant Professor 07/13 - Date
Department of Biology, Delaware State University, Dover DE

- Use *Drosophila* to determine the effects of changes in acetylcholine release on synaptic release and cholinergic-mediated behavior

Senior Postdoctoral Research Employee 02/08 – 06/13
Brain Research Institute, David Geffen School of Medicine at UCLA, *Mentor: David Krantz, M.D, Ph.D*

- Discovered novel putative amine releasing drug, potential treatment for depression and related mood disorders
- Led a team of six researchers to identify and characterize potential therapeutics for ameliorating symptoms of Parkinson's disease and other neurodegenerative disorders
- Determined a neuroprotective role for the vesicular monoamine transporter (VMAT) against environmental risk factors of Parkinson's Disease
- Optimized technique for [3H] DA release and uptake in mammalian cultured cells

Graduate Scientific Researcher 08/03 – 12/07
The University of Alabama, *Advisor: Janis M. O'Donnell, Ph.D*
Thesis: **Developmental and Neuronal functions of the dopamine biosynthesis pathway in *Drosophila melanogaster***

- Discovered a novel mechanism for role of dopamine in inhibition of angiogenesis in vivo
- Biochemically and behaviorally characterized 14-3-3 a regulator of dopamine biosynthesis in vivo
- Genetically engineered invertebrate animals that over-express dopamine synthesis pathway gene
- Performed immunohistochemical analysis to localize migratory cells in situ
- Developed immunohistochemical technique to assay surface levels of Fibroblast growth Factor receptor *in vivo*
- Developed and optimized enzyme biochemical techniques to determine activity of dopamine biosynthetic enzymes

PEER-REVIEWED/BOOK PUBLICATIONS

1. Grygoruk, A., Chen, A., Martin, C.A., **Lawal, H. O.,** Fei, H., Guitierrez, G., Biedermann, T., Najibi, R., Hadi, R., Chouhan, A. K., Murphy, N., Schweizer, F., Macleod, G. T., Maidment, N. and Krantz, D. E. 2014. Redistribution of Drosophila vesicular monoamine transporter mutants from synaptic vesicles to large dense-core vesicles impairs amine-dependent behaviors. *J. Neuroscience* 34(20):6924-37 PMID: 24828646
2. Martin, C.A., Barajas, A., Lawless, G., **Lawal, H.O**., Assani, K., Lumintag, Y.P., Nunez, V., Krantz, D.E. 2014. Synergistic effects on dopamine cell death in a *Drosophila* model of chronic toxin exposure. *Neurotoxicology* 44:344-51. PMID: 25160001
3. Chen A., Ng, F., Lebestky, T., Grygoruk, A., Djapri, C., **Lawal, H. O**.,Zaveri, H. A., Mehanzel, F., Najibi, R., Sedman, G., Ackerson, L. C., Maidment, N., Jackson, R. and Krantz, D.E. 2013. Dispensable, Redundant, Complementary, and cooperative role of dopamine, octopamine and serotonin in *Drosophila melanogaster*. *Genetics.* **193(1)**:159-76. PMID: 23086220

4. **Lawal, H.O**. and Krantz, D. E. 2013. SLC18: Vesicular neurotransmitter transporters for monoamines and acetylcholine. *Molecular Aspects of Medicine*, **34(2-3)**:360-72
5. **Lawal H. O**., Terrell, A., Jang, J., Hadi, R. S., Roberts, L., Shahi, V., Chou, M-T, Huang, B., Simon, A. F. and Krantz, D.E. 2012. In vivo screening using a Drosophila vesicular monoamine transporter mutant identifies a new class of aminergic drugs. *Molecular Psychiatry, Nature Publishing Group **(Epub ahead of print]*** PMID: 23229049
6. Daigle, D. J., Hall, M., Inamdar, A*., **Lawal, H*.,** Ferdousy, F., Ajjuri, R., Yoder, J. and O'Donnell, J. M. Integrated microglia-like inflammatory and hypoxia responses in a Drosophila model of Parkinson's disease. *In Review Nature Neuroscience.*
7. Wang, Z*., Ferdousy, F*., **Lawal, H.**, Izevbaye, I., Chaudhuri, A., Lackey, K., Burton, D., Rasco, J., Roberts, D., Williams, C., Stathakis, D., and O'Donnell, J. 2011 Catecholamines up regulates dopamine synthesis and synaptic trafficking in *Drosophila melanogaster*. *J. Neurochemistry* **119(6)**:1294-305. PMID: 21985068
8. **Lawal H. O**., Chang, H-Y., Terrell, A. N., Brooks., E. S., Pulido, D., Simon, A. F. and Krantz., D. E. 2010. The *Drosophila* vesicular monoamine transporter reduces pesticide-induced loss of dopaminergic neurons. *Neurobiol. Dis.* **40(1)**:102-12. PMID: 20472063
9. Bahadorani, S., Cho, J., Lo, T., Contreras, H., **Lawal, H. O**., Krantz, D. E., Bradley, T. J., and Walker, D. W. 2010. Neuronal expression of a single-subunit yeast NADH-ubiquinone oxidoreductase (Ndi1) extends Drosophila lifespan. *Aging Cell.* **9(2)**:191-202. PMID: 20089120
10. Hsouna, A.*, **Lawal, H. O***, Izevbaye, I., Hsu, T., O'Donnell, J.M. 2007. *Drosophila* dopamine synthesis pathway genes regulate tracheal morphogenesis" *Developmental Biology*. **308 (1)**: 30-47. PMID: 17585895
11. Chaudhuri, A., Bowling, K., Funderburk, C., **Lawal, H.**, Inamdar, A., Wang, Z. and O'Donnell, J.M. 2007. Interaction of Genetic and Environmental Factors in a *Drosophila* Parkinsonism model. *J. Neuroscience.* **27 (10)**: 2457-67. PMID: 17344383
12. Armagost, J., Hodges, T., **Lawal, H**., Apodaca, J. J. 2007. "Sensory Perception" In Biology the Study of Life (Rasco, J., and Lackey, K. eds) Kendall Hunt Publishing, **pp. 91-108**.

*****Authors contributed equally to this work.