Akpedje Serena Dossou, M.S.

A picture containing person, posing, smiling

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**Research**

After completing my B.S. in Biology and Chemistry, I joined the Lipoprotein Drug Delivery Lab where much of the research is geared in nanotheranostics. My Master's thesis was concentrated on formulating a hydrophobic anticancer drug, valrubicin, using albumin or D-α-Tocopherol polyethylene glycol 1000 succinate (TPGS). Currently a pre-doctoral trainee, my research focuses on targeting tumor-associated macrophages (TAMs) as anticancer therapy strategy. TAMs constitute an important part of the immune landscape of the tumor microenvironment, and studies spanning the past decades have demonstrated that TAMs are “educated” by cancer cells to an immunosuppressive M2 –like phenotype that promotes tumor growth, drug resistance, and metastasis. Lipid metabolism is an important driver of the plastic macrophage phenotype, and compared to other immune cells, macrophages interact the most with lipoproteins. As well, surface marker expression profile suggest that TAMs could be targeted by reconstituted high-density lipoprotein nanoparticles.

**Education Background**

M.S. in Biomedical Sciences, University of North Texas Health Science Center, Fort Worth Texas

B.S. in Biology and Chemistry, University of North Texas, Denton, Texas

**Publications**

**Lipoproteins and the Tumor Microenvironment.** Dossou, A. S., Sabnis, N., Nagarajan, B., Mathew, E., Fudala, R., & Lacko, A. G. (2020).. Adv Exp Med Biol, 1272, 93-116.

**The Emerging Roles of mTORC1 in Macromanaging Autophagy**. Dossou, A. S., & Basu, A. (2019). Cancers (Basel), 11(10). doi:10.3390/cancers11101422

**Reconstituted HDL: Drug Delivery Platform for Overcoming Biological Barriers to Cancer Therapy**. Raut, S., Mooberry, L., Sabnis, N., Garud, A., Dossou, A. S., & Lacko, A. (2018).. Front Pharmacol, 9, 1154. doi:10.3389/fphar.2018.01154

**Genome Sequences of Five Streptomyces Bacteriophages Forming Cluster BG**. Donegan-Quick, R., Gibbs, Z. A., Boyd, D. A., Angela R. Burr, a., Henry, R. m., Huynh, M., . . . Hughes, L. E. (2017). Genome Announcements 5, e00502-00517. doi:10.1099/ijs.0.028514-0