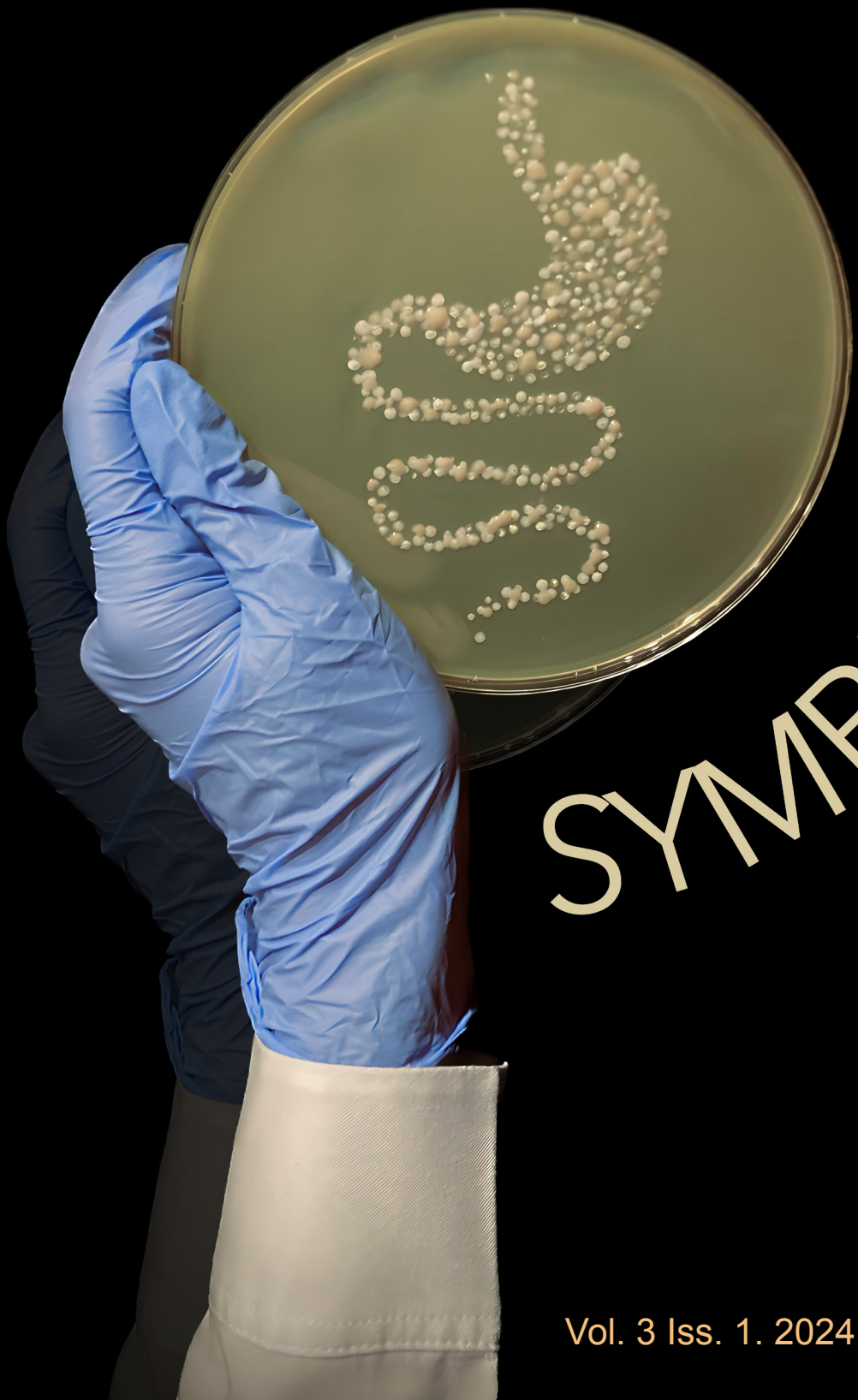
Midwestern Journal of Undergraduate Sciences



SYMBIOSIS

Gut Microbiota Reading List
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Selected Topics
A Gutsy Reading List

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The following articles were assigned for group presentations in the Spring 2024 Selected Topic Class at the University of Kansas, Edwards Campus. Articles assigned for presentation are in bold. Background articles are left unbolded.

1. Commensal Influence on Gene Expression

a. **Hooper, L. V. et al. Molecular Analysis of Commensal Host-Microbial Relationships in the Intestine. Science 291, 881–884 . 2001.**

b. Thaiss, C. A., Zmora, N., Levy, M. & Elinav, E. The microbiome and innate immunity. Nature 535, 65–74. 2016. [Review]

2. Toll Like Receptor (TLR) Signaling

a. **Rakoff-Nahoum, S., Paglino, J., Eslami-Varzaneh, F., Edberg, S. & Medzhitov, R. Recognition of Commensal Microflora by Toll-Like Receptors Is Required for Intestinal Homeostasis. Cell 118, 229–241 . 2004.**

b. **Venkatesh, M. et al. Symbiotic Bacterial Metabolites Regulate Gastrointestinal Barrier Function via the Xenobiotic Sensor PXR and Toll-like Receptor 4. Immunity 41, 296–310. 2014.**

c. Adrian Hall, Hugues Chanteux, Karelle Ménochet, Marie Ledecq, and Monika-Sarah E. D. Schulze. Designing Out PXR Activity on Drug Discovery Projects: A Review of Structure-Based Methods, Empirical and Computational Approaches. J. Med. Chem. 64, 10, 6413–6522. 2021.

3. Transcriptional Regulation

a. **Kelly, C. J. et al. Crosstalk between Microbiota-Derived Short-Chain Fatty Acids and Intestinal Epithelial HIF Augments Tissue Barrier Function. Cell Host Microbe 17, 662–671. 2015**

4. TLR-Independent TRAF Signaling

a. **Vlantis, K. et al. TLR-independent anti-inflammatory function of intestinal epithelial TRAF6 signalling prevents DSS-induced colitis in mice. Gut 65, 935–943 . 2016.**

5. Innate Immunity and Inflammation

a. **Nenci, A. et al. Epithelial NEMO links innate immunity to chronic intestinal inflammation. Nature 446, 557–561. 2007.**

6. Reactive Oxygen Species

a. **Kumar, A. et al. Commensal bacteria modulate cullin-dependent signaling via generation of reactive oxygen species. EMBO J. 26, 4457–4466. 2007.**

7. Ubiquitin

a. Patrick, S. et al. A unique homologue of the eukaryotic protein-modifier ubiquitin present in the bacterium Bacteroides fragilis, a predominant resident of the human gastrointestinal tract.

Microbiology 157, 3071–3078. 2011

8. Host Immune System Development

a. **Chung, H. et al. Gut Immune Maturation Depends on Colonization with a Host-Specific Microbiota. Cell 149, 1578–1593. 2015.**

b. **Zhang, D. et al. Neutrophil ageing is regulated by the microbiome. Nature 525, 528–532. 2015.**

9. Regulation of Vesicular Trafficking

a. **Zhang, Q. et al. Commensal bacteria direct selective cargo sorting to promote symbiosis. Nat. Immunol. 16, 918–926. 2015**

10. Host Regulation of Microbiota

a. **Ramanan, D., Tang, M. S., Bowcutt, R., Loke, P. & Cadwell, K. Bacterial Sensor Nod2 Prevents Inflammation of the Small Intestine by Restricting the Expansion of the Commensal Bacteroides vulgatus. Immunity 41, 311–324. 2014.**

11. Dietary and Adiposy Regulation of Microbiota

a. **Trompette, A. et al. Gut microbiota metabolism of dietary fiber influences allergic airway disease and hematopoiesis. Nat. Med. 20, 159–166. 2014.**

b. Le Chatelier, E. et al. Richness of human gut microbiome correlates with metabolic markers. Nature 500, 541–546. 2013.

c. Koeth, R. A. et al. Intestinal microbiota metabolism of L-carnitine, a nutrient in red meat, promotes atherosclerosis. Nat. Med. 19, 576–585. 2013.

Keeping up on the Literature