Wendy Hempstock, PhD

https://db.u-shizuoka-ken.ac.jp/show/n-hempstock.html
https://researchmap.jp/wlh
https://www.researchgate.net/profile/Wendy-Hempstock

Education

PhD in Food and Nutritional Science, University of Shizuoka, Shizuoka, Japan, 2021

Master of Science in Human Nutrition, University of British Columbia, Vancouver, Canada, 2014

Bachelor of Science in General Science with a minor in Russian Studies, University of British Columbia, Vancouver, Canada, 2008

Employment

University of Shizuoka, Faculty of Food and Nutritional Science, Assistant Professor, 2024-present

University of Shizuoka, School of Nursing, Assistant Professor, 2021-2024

University of Shizuoka, School of Nursing, Sessional Lecturer, 2020-2021

Saitama Prefectural Board of Education, Assistant Language Teacher, 2012-2017

Leonis Management & Consultants Ltd., Accounting Clerk, 2005-2012

Professional Memberships

The Physiology Society, Physiology News Editorial Board Member, 2019-present

Japanese Physiology Society, Full member, 2019-present

AAAS, Gold member, 2023-present

Teaching Experience

English: High-school level current affairs, cross-cultural communication, debate, drama, writing and presentation skills

Science: University level biochemistry (1st year students), health science lab course (1st year students), and food chemistry tutorial (3rd year students)

Research Advisor: University level graduation research supervisor (4th year students)

Publications

Nakamura, C., Ishizuka, N., Yokoyama, K., Yazaki, Y., Tatsumi, F., Ikumi, N., Hempstock, W., Ikari, I., Yoshino, Y., & Hayashi, H. (2023). Regulatory mechanisms of glucose absorption in the mouse proximal small intestine during fasting and feeding. *Scientific Reports*, 13:10838. DOI: https://doi.org/10.1038/s41598-023-38024-w

Hempstock, W., Nagata, N., Ishizuka, N., & Hayashi, H. (2023). The effect of claudin-15 deletion on cationic selectivity and transport in paracellular pathways of the cecum and large intestine. *Scientific Reports*, 13:6799. DOI: https://doi.org/10.1038/s41598-023-33431-5

Ishizuka, N., Nagahashi, M., Mochida, Y., Hempstock, W., Nagata, N., & Hayashi, H. (2023). Na^+-dependent intestinal glucose absorption mechanisms and its luminal Na^+ homeostasis across metamorphosis from tadpoles to frogs. *AJP Regul. Integr. Comp. Physiol.* 324(5): R645-R655. DOI: https://doi.org/10.1152/ajpregu.00249.2021

Furuse, M., Nakatsu, D., Hempstock, W., Sugioka, S., Ishizuka, N., Furuse, K., Sugawara, T., Fukazawa, Y., & Hayashi, H. (2023). Reconstitution of functional tight junctions with individual claudin subtypes in epithelial cells. *Cell Structure and Function.* 48(1): 1-17. DOI: https://doi.org/10.1247/csf.22068.

Hempstock, W., Ishizuka, N., & Hayashi, H. (2021). Functional assessment of intestinal tight junction barrier and ion permeability in native tissue by Ussing chamber technique. *J. Vis. Exp.* 171: e62468. DOI: https://dx.doi.org/10.3791/62468

Hempstock, W., Sugioka, S., Ishizuka, N., Sugawara, T., Furuse, M., & Hayashi, H. (2020). Angulin-2/ILDR1, a tricellular tight junction protein, does not affect water transport in the mouse large intestine. *Scientific Reports*, 10: 10374. DOI: https://doi.org/10.1038/s41598-020-67319-5

Nakayama, M., Ishizuka, N., Hempstock, W., Ikari, A., & Hayashi, H. (2020). Na^+-Coupled Nutrient Cotransport Induced Luminal Negative Potential and Claudin-15 Play an Important Role in Paracellular Na^+ Recycling in Mouse Small Intestine. *Int. J. Mol. Sci., 21(2).* 376. DOI: https://doi.org/10.3390/ijms21020376

Ishizuka, N., Hempstock, W. & Hayashi, H. (2019). The Mode of Action of NHE3 Inhibitors in Intestinal Na^+ Absorption. *Gastro Med Res. 4(1).* 297. DOI: https://doi.org/10.31031/GMR.2019.04.000577

Hempstock, W. (2014). *Effects of short-term supplementation of folic acid and L-5-methyltetrahydrofolate on cell proliferation and the expression of folate transporters in human colorectal adenocarcinoma (Caco2) cells* (Master's thesis). Retrieved from Open Access Theses and Dissertations database. (Record ID: handle:2429/46541)

Wiebe, E. & Hempstock, W. (2008) Comparison of four regimens of misoprostol after methotrexate for early abortion. *Int. J. Gynecology & Obstetrics* 101: 192-193.

Conferences and Presentations

March 14-16, 2023: Japanese Physiology Society's 100th Annual Meeting (Kyoto, Japan)

- Symposium Presentation: Claudin-15 is responsible for the conductance and permselectivity of the murine cecum and large intestine

September 16-18, 2022: Europhysiology 2022 (Copenhagen, Denmark)

- Poster Presentation: Claudin-15 is the molecule responsible for the conductance and permselectivity of the murine cecum and large intestinal epithelia

March 16-18, 2022: The 99th Annual Meeting of the Physiological Society of Japan (Sendai, Japan)

- Oral Presentation: The effect of claudin-15 deletion on digestion and energy metabolism

December 6-8, 2021: Frontiers in Epithelial Cell Biology (Internet-based conference)

- Poster Presentation: The effect of claudin-15 deletion on paracellular Na^+ transport in the cecum and large intestine

October 16-20, 2020: The 67th Annual Central Japan Physiology Conference (Internet-based conference)

- Oral Presentation: Effect of claudin 15 knockout in the murine cecum and large intestine

March 17-19, 2020: The 97th Annual Meeting of the Physiological Society of Japan (Oita, Japan)

- Oral Presentation: Intestinal nutrient absorption and barrier function in SAMP1 senescence accelerated aged mice

November 11, 2019: 2019 Sendai Shirahakugo Women's University Human Development Research Centre Lecture Series: The 1st Health and Epithelial Transport Research Meeting (Sendai, Japan)

- Invited Speaker: Barrier integrity and paracellular transport are maintained in the large intestine of ILDR1 knockout mice

November 9-10, 2019: The 24th Shizuoka Forum on Health and Longevity (Shizuoka, Japan)

- Poster Presentation: Paracellular transport across tricellular tight junctions in the large intestine of ILDR1 knockout mice

September 5-6, 2019: 2019 National Institute for Physiological Sciences Research Meeting: Strategies for elucidating the functional relationship between epithelium, stroma and the pathogenesis mechanism (Okazaki, Japan)

- Oral Presentation: Paracellular transport across tricellular tight junctions in the large intestine of ILDR1 knockout mice

July 8-10, 2019: Physiology 2019 (Aberdeen, UK)

- Poster Presentation: Paracellular water and ion transport is unaffected in ILDR1 knockout mice

May 17-19, 2019: 73rd Annual Japan Society for Nutritional and Food Science Meeting (Shizuoka, Japan)

- Oral Presentation: Paracellular ion and water transport is unaffected in the large intestine of ILDR1 KO mice