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Functional characterization of the human zinc transporter, hZIP4, in the zinc-deficient *S. cerevisiae* strain ZHY3[1] YUTING LIU, ELIZABETH BAFARO, ROBERT DEMPSKI, Worcester Polytechnic Institute — Zinc deficiency is a significant nutritional problem in humans. As zinc cannot passively diffuse across cell membranes, it must be transported into cells and intracellular compartments by transporter proteins. The Human Zinc-regulated, Iron-regulated transporter-like Protein (hZIP) gene family has been recognized in humans to be involved in metal uptake and transport. The hZIP4 protein was initially discovered as mutations in this protein results in *acrodermatitis entreropathica* (AE), a zinc deficiency disease. Here, we have used heterologous expression of hZIP4 in *S. cerevisiae* to examine the functionality of this protein. Analysis of our experimental results demonstrate that hZIP4 is functional in *S. cerevisiae*, an important first step in investigating the molecular mechanism of hZIP4.

[1]Worcester Polytechnic Institute

Yuting Liu
Worcester Polytechnic Institute

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