Biography

Tom Bartnikas, M.D. Ph.D. is assistant professor in the Department of Pathology and Laboratory Medicine at Brown University. He obtained a B.A. from Cornell University then an M.D. Ph.D. from Washington University in St. Louis (Ph.D. in Molecular Cell Biology with Dr. Jonathan Gitlin). He did his postdoctoral studies with Drs. Nancy Andrews and Mark Fleming at Boston Children's Hospital. His laboratory explores the molecular, biochemical, genetic, and physiologic basis of metal homeostasis in the human body. Using multiple in vivo and in vitro experimental approaches, the laboratory investigates the mechanisms by which metals are acquired by the body, distributed to various tissues, and recycled or eliminated and how perturbations in these mechanisms can lead to human disease.

Abstract

"Inherited Diseases of Metal Excess: What They Can Teach Us About the Biology of Metals"

Metals such as copper, iron, and manganese are essential for human health but potentially toxic when present in excess. Metal content within the body can be regulated at the level of absorption, distribution, storage, and excretion. Inherited diseases of metal excess typically result from defects in genes essential for discrete steps in this regulation. Our goal is to establish the molecular and physiologic basis of metal regulation using cell culture and mouse models of inherited diseases. Our current work focuses on the mechanism by which iron and manganese are excreted from the body.