

P025 Influence of iron homeostasis on the expression of zinc transporter mRNA in mice duodenum: preliminary study
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Background: Interaction between iron and zinc homeostasis has long been reported. Results from *in vivo* studies suggested that zinc deficiency resulted in tissue iron accumulation while zinc supplementation was associated with decreased liver iron content. Recently, zinc deficiency has been demonstrated to induce iron accumulation through increased iron responsive protein 2 level and binding activity. However, the impact of iron homeostasis on zinc status has not been well characterized. This study aims to explore effects of iron deficiency and hepcidin, an iron regulatory peptide, on duodenal zinc transporters mRNA expression.

Methods: Eight-week old CD1 mice maintained under control or iron deficient diet for 2 weeks were injected with hepcidin or saline. Duodenal scraping was collected at 6 hours after treatment. RNA extraction and cDNA synthesis were performed. The abundance of mRNA was detected in a semiquantitative manner.

Results & Discussion: Duodenal Zip4, ZnT1 and MT1 mRNA expression were induced by iron deficiency. Hepcidin treatment in iron deficient mice was associated with decreased ZnT1 mRNA. In contrast, no change in Zip5 mRNA expression in response to iron deficiency or hepcidin was detected. These results warrant further study to delineate the influence of iron status on zinc homeostasis.