

Determination of trace elements in organs and tissues of Zn-deficient mice by means of PIXE and INAA

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Abstract

Eight-week-old male mice of ICR strain were divided into two groups, and fed with cobalt enriched zinc deficient diet (+32 µg/g Co) and copper enriched zinc deficient (+34 µg/g Cu), respectively, for one or three weeks. Concentrations of twelve elements in liver, kidney, pancreas, testis, and bone were determined by instrumental neutron activation analysis. Zinc concentration in serum was also determined by PIXE analytical technique. Zinc concentrations in bone and pancreas were decreased with a decrease of zinc content in diets after one week treatment. However, after that, Zn concentrations in pancreas of mice fed with cobalt enriched zinc deficient diet were increased.