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## Transport of zinc radiotracer in swine small intestine

This study was conducted to measure the transport of zinc (Zn) into a pig intestinal brush border membrane vesicle (BBMV) preparation using a radiolabeled Zn-proteinate. Fresh samples of duodenum, jejunum and ileum were obtained from the small intestine of five crossbred weanling pigs to produce the BBMV. We anticipated that the large molecular size of an organic Zn compound would considerably limit or prevent the uptake of Zn by intestinal vesicles when the normal processes of digestion have been bypassed. For that reason, we performed an in vitro procedure designed to simulate the digestive system of the pig (Liu et al., 1998; Tsunoda et al., 2001). Our initial trials using non-radiolabeled Zn with a cellulose carrier determined effective digestion of Zn with a sample size of 0.25 g. Based on these results, this in vitro method was used to digest 0.25 g of  $^{65}\text{Zn}$ -proteinate prior to performing uptake studies. We used concentrations of 480 and 960 ppm Zn as Zn-proteinate.  $^{65}\text{Zn}$  uptake was allowed to occur for 0, 1, 2.5, 5, 10, 30, 60 or 180 minutes.