

Effect of NaCl and minerals on secretion of gastrointestinal hormones by hormone-producing cells: Purification of hormone-producing cells from rat small intestine.

Tohru FUSHIKI and Etsuro SUGIMOTO  
Department of Food Science and Technology, Faculty of Agriculture  
Kyoto University

#### Summary

Gastrointestinal hormone-producing cells were purified from rat small intestine with dispersion, percoll density gradient centrifugation and cell-sorter. Rat epithelial cells were dispersed by dispase and collagenase and then applied on density gradient centrifugation with 35% percoll. The fraction number 11 and 12 on the centrifugation, which contained gastrin, chromogranin, GIP and CCK, were then applied cell-sorter. The small intestinal absorption cells, which occupy almost 99% of the small intestinal cells, were markedly removed by this process. Purified cells were packed in the column and maintained at 37C. Gastric inhibitory peptide (GIP) was released from the cells when the cells were perfused with 5 uM of glucose solution. It suggested that gastrointestinal hormone producing cells were highly concentrated and it had an ability of the hormone-release, indicating that the purified cells are useful for investigation of the effect of minerals on the hormone-release of the cells.