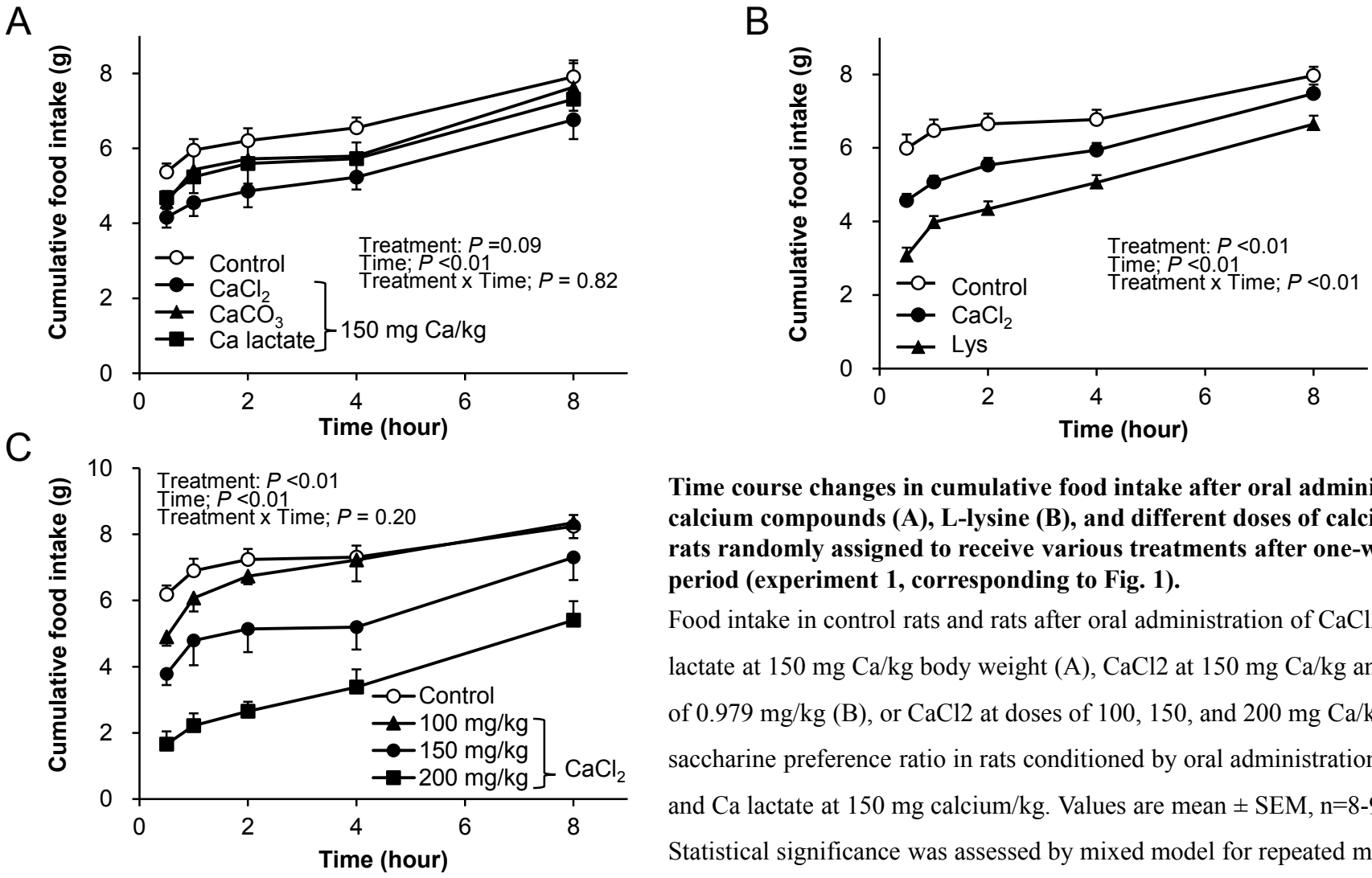
A Igarashi et al.

Acute oral calcium suppresses food intake through enhanced peptide-YY secretion mediated by the calcium-sensing receptor in rats

Online Supplementary Material

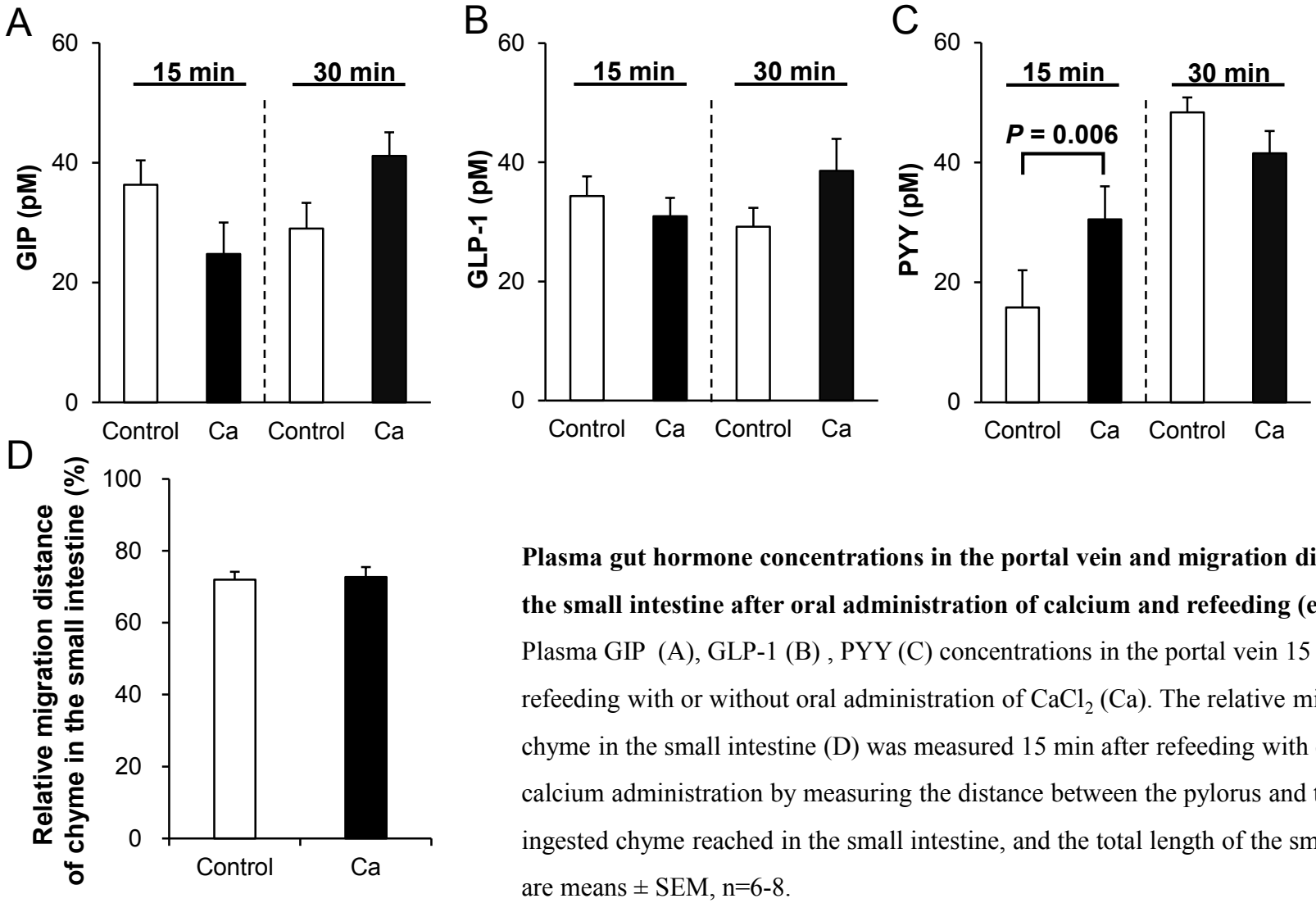
Supplementary Figure 1



Time course changes in cumulative food intake after oral administration of various calcium compounds (A), L-lysine (B), and different doses of calcium chloride (C) in rats randomly assigned to receive various treatments after one-week washout period (experiment 1, corresponding to Fig. 1).

Food intake in control rats and rats after oral administration of CaCl2, CaCO3, and Ca lactate at 150 mg Ca/kg body weight (A), CaCl2 at 150 mg Ca/kg and L-Lys at a dose of 0.979 mg/kg (B), or CaCl2 at doses of 100, 150, and 200 mg Ca/kg (C), and the saccharine preference ratio in rats conditioned by oral administration of CaCl2, CaCO3, and Ca lactate at 150 mg calcium/kg. Values are mean ± SEM, n=8-9 (A, B), or 6 (C). Statistical significance was assessed by mixed model for repeated measurements.

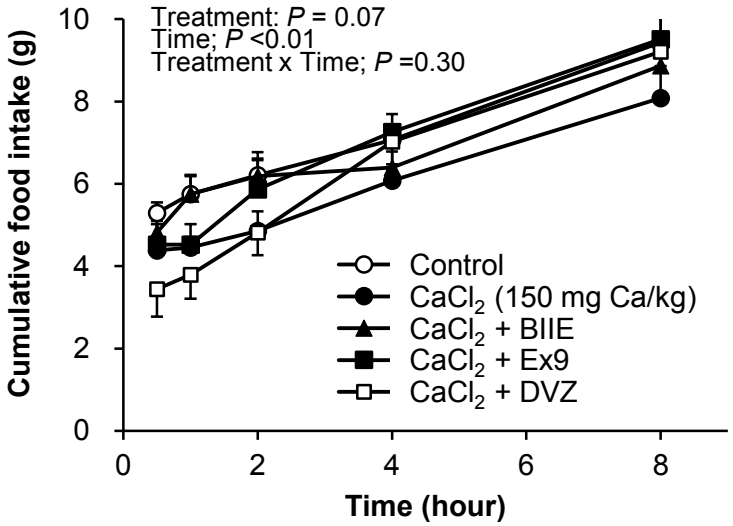
Supplementary Figure 2



Plasma gut hormone concentrations in the portal vein and migration distance of chyme in the small intestine after oral administration of calcium and refeeding (experiment 2)

Plasma GIP (A), GLP-1 (B) , PYY (C) concentrations in the portal vein 15 or 30 min after refeeding with or without oral administration of $CaCl_2$ (Ca). The relative migration distance of chyme in the small intestine (D) was measured 15 min after refeeding with or without oral calcium administration by measuring the distance between the pylorus and the position of ingested chyme reached in the small intestine, and the total length of the small intestine. Values are means ± SEM, n=6-8.

Supplementary Figure 3



Effects of gut hormone receptor antagonists on calcium-reduced food intake in rats randomly assigned to receive various treatments after one-week washout period (experiment 3-3)

Food intake was measured after oral administration of the vehicle as control and calcium chloride ($CaCl_2$) at 150 mg calcium/kg with intraperitoneal administration of vehicle, a PYY receptor antagonist BIIE0246 (BIIE, 340 nmol/kg), a GLP-1 receptor antagonist exendin-9 (Ex9, 200 nmol/kg), or a CCK receptor antagonist devazepide (DVZ, 500 μg/kg). Values shown are means ± SEM, n=3-5.