1. No.
   2020T006

2. Title
   The Effect of Smoking on Appetite and Functions of Endocrine and Gut

3. Period
   2020-2022

4. Summary
   The results of a study on nicotine and feeding behavior are as follows. Firstly, in the acute nicotine-treated group in the light phase, the amount of food intake decreased significantly from 8 to 24 h after nicotine administration. In contrast, in the acute nicotine-treated group in the dark phase, the amount of food intake decreased significantly from 2 to 24 h after nicotine administration. Secondly, after acute nicotine administration, increased c-Fos expression was observed in the arcuate nucleus and paraventricular nucleus of the hypothalamus. Transcriptome analysis of the hypothalamus showed that *H3F3C* was upregulated and *GM3173*, *GM7327*, *HHEX*, *HSPA1A*, and *HSPA1B* were downregulated. Thirdly, the high-fat diet group showed a significant increase in food intake and body weight from day 3 to day 42 compared to the standard diet group. After chronic administration of nicotine to these mice, the high-fat diet + nicotine group showed a transient decrease in food intake and body weight compared to the high-fat diet + saline group, but the difference was not significant. In addition, the standard diet + nicotine group showed no change in food intake or body weight compared to the standard diet + saline group.