1. No.

   FP01708133

2. Title

   Molecular Analysis of Adult Onset Obesity after Nicotine Exposure at Fetal Period

3. Period

   2016-2017

4. Summary

Previous clinical studies and epidemiological researches have declared that nicotine exposure in embryonic period was a significant risk of adult onset obesity, but pathological mechanism has not been well understood. In the current study, molecular mechanism of nicotine regulating adipocyte will be analyzed with zebrafish. Gene expression of subunits of nicotine receptor in *5dpf* and *7dpf* zebrafish was analyzed by Quantitative RT-PCR method. Chrna3、Chrna4、Chrna7、Chrnb2 gene expression were significant in nicotinic receptor subunits. Isolated adipocytes were obtained from Nile red stained zebrafish. By FACS analysis, we found two groups of isolate adipocytes from zebrafish, which had low FSC(small size adipocytes) and high FSC(large size adipocytes). The size of zebrafish adipocytes which exposed with 10 nM nicotine from 0dpf to 10dpf was larger than control in mode. The current study suggest that neonatal nicotine exposure could be a potential factor making larger adipocytes.