1. **No.**

   FP01812184

2. **Title**

   The effect on chronic nicotine exposure on the lowered exercise capacity and impaired mitochondrial function of skeletal muscle in haeart failure

3. **Period**

   2017-2019

4. **Summary**

   In a murine model of heart failure (HF) post myocardial infarction (MI) with nicotine administration, we demonstrated that nicotine per se did not exaggerate reduced exercise capacity and mitochondrial dysfunction in the skeletal muscle in these mice. In accordance, exercise capacity such as peak exercise consumption and anaerobic threshold, as well as thigh and biceps circumferences, were not different between HF patients with smoking habitat and those without. Notably, blood levels of brain-neurotrophic factor (BDNF) tended to rise in smoking HF patients compared with non-smoking patients. This increased BDNF levels in smoking groups may offset the adverse effects of smoking on exercise capacity. Further investigation is needed to clarify the definite clinical impact of smoking and nicotine on exercise intolerance and skeletal muscle abnormalities in HF.