1. **No.**

   FP01802038

2. **Title**

   Facilitatory Mechanism of Nicotine on Perivascular Adrenergic Innervation in Rat

3. **Period**

   2017-2019

4. **Summary**

   We have investigated effects of nicotine on neurite outgrowth in rat SCG or PC12 cells. 10～300 μM and 10 μM nicotine significantly enhanced the number of neurites in SCG cells and neurite outgrowth, branches in PC12 cells, respectively. The number of neurites in SCG cells and PC12 cells was markedly inhibited by the treatment of 10 mM and 100 mM nicotine, respectively. However, 100 mM NaCl, hypertonic solution has no effects on the number and length of neurites and branches. This study suggests that nicotine has dual effects with α7 nAChR-mediated facilitation and α7 and/or α3β4 nAChR-mediated inhibition on the neurite outgrowth in SCG and PC12 cells.