1. **No.**

   FP01804059

2. **Title**

   Nicotine Agonist as a Novel Therapy for Severe Bronchial Asthma

3. **Period**

   2016-2018

4. **Summary**

Obesity asthma is most refractory phenotype among severe asthma, and type 2 innate lymphocyte cells (ILC2s) are involved in the pathogenesis of obesity asthma. Recently studies revealed that α7-nicotinic acetylcholine receptor (α7nAChR) mediate anti-inflammatory effects. Therefore, this study investigated the role of α7nAChR agonist in ILC2s mediated obesity asthma.

We found α7nAChR agonist reduced development of airway hyperreactivity and allergic inflammation, which is associated with reduced number of ILC2s. Treatment with α7nAChR agonist showed decreased production of IL-5 and IL-13 from ILC2s *in vitro*.

Our results suggested that GTS-21 mediate anti-allergic inflammation possibly through inhibiting function of ILC2s.