1. **No.**

   FP01801001

2. **Title**

   The role of macrophage migration inhibitory factor (MIF) for smoking-related lung cancer development

3. **Period**

   2018-2018

4. **Summary**

   Macrophage migration inhibitory factor (MIF) is a pro-inflammatory cytokine produced by various immune and epithelial cells. Its role in the development of tobacco-smoking associated disease such as chronic obstructive lung disease (COPD) has been investigated vigorously. However, the role of MIF has not been clarified in non-small cell lung cancer (NSCLC) development and its biological behavior.

   NSCLC samples (217 cases) surgically resected at Akita University Hospital (Akita, Japan) were immunohisctochemically examined for MIF expression and clinicicopathological analyses were performed. The study revealed that 47% of the NSCLC cases showed higher expression of MIF, which correlated with male gender, higher Brinkman index, squamous cell carcinoma histology, lymphovascular invasion, higher tumor stromal M2-macrophage infiltration, and lower mir-451 expression. In contrast, higher expression of MIF did not correlated with worse prognosis of the cases and EGFR or ALK abnormalities. In conclusion, MIF is considered to play a role in the development of tobacco-smoking associated male squamous cell carcinoma.