1. No.
   2021G033

2. Title
   The involvement of polymorphisms of genes related to alcohol metabolism in the individual differences in vulnerability to and severity of substance dependence regarding nicotine and other addictive substances

3. Period
   2021-2023

4. Summary

   In this study, we aimed to perform comprehensive genetic analysis targeting molecules involved in alcohol metabolism, including ALDH2 and ADH1B, and investigate the effects of these genetic polymorphisms on smoking behavior, including nicotine dependence, and other substance dependence-related traits. In order to clarify this, we analyzed associations between the medical history of each disease, smoking/drinking related data, eating habits data, etc., and the functional polymorphisms of rs671 in the acetaldehyde dehydrogenase gene *ALDH2* and rs1229984 in the alcohol dehydrogenase gene *ADH1B*, which are involved in alcohol metabolism.

   As a result of the analysis, we found associations between *ALDH2* rs671 and high blood pressure (history of current illness and past illness), alcohol history, alcohol consumption, smoking period, smoking index, Japanese tea intake, etc. Furthermore, we found a significant association between *ADH1B* rs1229984 and BMI, obesity, number of cigarettes per day (average), etc. Furthermore, in an analysis of the contribution to substance dependence other than alcohol dependence, we found associations between *ALDH2* rs671 and alcohol dependence, and between *ADH1B* rs1229984 and alcohol dependence, stimulant dependence, and eating disorders.