Association between polymorphisms in SLC15A1 and PLA2G16 genes and development of obesity susceptibility in Chinese subjects

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Objective: The small Peptide Transporter 1 (PepT-1) and Adipose phospholipase A2 (AdPLA) play a key role in the development of obesity. However, there are no data assessing the impact of PepT-1 (SLC15A1) and AdPLA (PLA2G16) variants on obesity susceptibility. Therefore, we assessed the contribution of 9 SNPs among these two genes on obesity susceptibility in Chinese subjects.

Methods: A total of 611 participants were enrolled in the study and 9 SNPs in the SLC15A1 and PLA2G16 genes were selected. Blood samples were collected for genotyping. The overweight and obesity were established by Body Mass Index (BMI). Regression analyses were performed to test for any association of genetic polymorphisms with weight abnormality.

Results: The genotype frequencies (p=0.04 for rs9557029, p=0.027 for rs1289389) were significantly different between obesity or overweight subjects and healthy controls. However, no significant difference in allele was found between these three groups (P>0.05). And further logistic regression analyses adjusted for age and gender also failed to reveal significant associations between overweight, obesity and the selected SNPs (P>0.05).

Conclusion: Data indicates that these 9 SNPs we selected in SLC15A1 and PLA2G16 genes were not related to obesity susceptibility in the Han Chinese population.