APOA5 polymorphisms associated with lipid metabolism in Brazilian children and adolescents

E. De França¹, D.S.B.S. Silva¹, T.F.C. Silva¹, C.L. Dornelles¹, J.G. Alves² and C.S. Alho¹

¹Laboratório de Genética Humana e Molecular, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, RS, Brasil
²Instituto de Medicina Integral Professor Fernando Figueira, Recife, PE, Brasil

Corresponding author: C.S. Alho
E-mail: csalho@pucrs.br

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ABSTRACT. Single nucleotide polymorphisms in the APOA5 gene have been studied for their association with metabolic syndrome. Thus, elucidating the effect of the mechanism involved in APOA5 gene polymorphisms on lipid metabolism is of great importance. In this study we aimed to determine the allelic and genotypic frequencies of -1131T>C, Ser19Trp, and intergenic APOA4/A5 and to evaluate the association between these variants with plasma lipid levels in children and adolescents from Brazil. This study included 524 healthy children and adolescents from Mother and Child Hospital in Recife, Pernambuco, Brazil. Data were obtained on medical history, drug intake, lifestyle variables, and demography. DNA from collected samples was extracted and genotyped for the three polymorphisms. In this studied population, triglycerides and very low-density protein levels were significantly high in subjects carrying the 19WW genotype (P < 0.001), demonstrating the presence of this genetic risk factor in children and adolescents.

Key words: SNP; -1131T>C; Ser19Trp; APOA4/A5; Lipid metabolism