

Plasma levels of GGT and ALB and their genetic correlations with cardiovascular risk factors

November 24 2009

Two indicators of liver function, Gamma-glutamyl transferase (GGT) and albumin (ALB) have been implicated in the pathogenesis of atherosclerosis. It is known that the variation in the plasma level of these liver related proteins is genetically influenced.

The purpose of this study published in the December 2009 issue of *Experimental Biology and Medicine* was to identify chromosomal regions containing genes that affect the variation in the plasma levels of GGT and albumin and to determine whether genes contributing to variation in these hepatic proteins also influence variation in known [cardiovascular disease](#) risk factors.

This work was conducted by Tanushree Bose, at the time a graduate student in the Department of Nutritional Science at The University of Texas at Austin and currently a faculty member at California Polytechnic State University, and Anthony Comuzzie and colleagues in the Department of Genetics at the Southwest Foundation for Biomedical Research and the Southwest National Primate Research Center in San Antonio, Texas. The study utilized [serum](#) samples from 350 (254 females; 96 males) baboons from the pedigreed colony maintained by the Southwest National Primate Research Center. Dr. Bose noted that "Even though phenotypic correlations between ALB and cardiovascular risk factors have been reported the evidence of shared genetic effects (i.e. pleiotropy) between them has been reported for the first time in this

paper".

Findings of this study will assist in future hypotheses aimed at identifying the relative contribution of various components to the pathogenesis of liver dysfunction. Additionally, if a common set of genes are found to regulate variation in levels of liver proteins and cardiovascular disease risk factors these experimental results can be used to develop future studies that will identify and explore those genes.

Dr. Steven R. Goodman, Editor-in-Chief of *Experimental Biology and Medicine*, said "The studies by Bose et al suggest that GGT and albumin are under significant genetic regulation and that a common genetic component influences both plasma albumin levels and cardiovascular disease risk factors. Now it will be essential to identify these [genes](#)".

Source: Society for Experimental Biology and Medicine ([news](#) : [web](#))

Citation: Plasma levels of GGT and ALB and their genetic correlations with cardiovascular risk factors (2009, November 24) retrieved 10 April 2024 from <https://medicalxpress.com/news/2009-11-plasma-ggt-alb-genetic-cardiovascular.html>

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