

Results of a Genomewide Linkage Scan: Support for Chromosomes 9 and 11 Loci Increasing Risk for Cigarette Smoking

Gelernter, J., Liu, X., Hesselbrock, V., **Page, G.P.**, Goddard, A., Zhang, H. (2004). Results of a genomewide linkage scan: Support for chromosomes 9 and 11 loci increasing risk for cigarette smoking. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, 128B (1):94-101.



Grier Page

Cigarette smoking is the leading factor contributing to premature death in America. Thus, understanding the factors that lead to cigarette use and addiction may provide great insights into how smoking may be controlled. We used a family-based linkage approach to coarsely localize genes that predispose to smoking, but since the addictive agent in cigarette smoking is nicotine, our analysis is for genes that predispose to nicotine addiction as opposed to smoking.

In our study, we typed over 400 markers, providing us genomewide coverage in our samples of 12 families with a total of 214 people. Linkage analysis identified two significant regions of the human genome that are near markers D11S4046 and D9S283, respectively. These regions likely harbor genes that predispose to nicotine addiction. Other groups have since localized genes for nicotine addiction and lung cancer to the regions we identified.

Link: <http://dx.doi.org/10.1002/ajmg.b.30019>