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The apolipoprotein E polymorphism in Greenland Inuit in its global perspective

L U Gerdes [1], C Gerdes, P S Hansen, I C Klausen, O Faergeman, J Dyerberg

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Abstract

Apolipoprotein E (apoE) genotypes were determined in Inuit population samples from Nuuk on the south-west coast of Greenland (n = 100) and from the Ammassalik region on the south-east coast (n = 78). The epsilon 2 allele was absent in the latter sample, and the epsilon 4 allele frequency was relatively high, about 23%. As in most other populations, mean plasma lipoprotein-related variables, except high-density lipoprotein (HDL) cholesterol, were higher in both Inuit men and women with epsilon 4 than in epsilon 3 epsilon 3 genotypes ($P < 0.05$ for triglycerides in men, and for non-HDL cholesterol and apolipoprotein B in women). The estimated apoE allele frequencies were combined with data from other studies of aboriginal peoples to outline a world map of apoE allele frequencies. A recent study of non-human primates suggests that epsilon 4, and not epsilon 3, is the ancestral allele in humans and we have used the map to generate additional hypotheses regarding the history of the apoE polymorphism in humans.

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