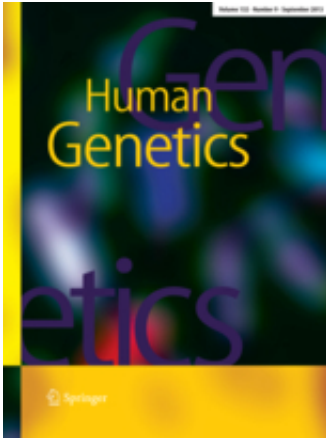


Predicting human body height from DNA

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Predicting adult body height from genetic data is helpful in several areas such as pediatric endocrinology and forensic investigations. However, despite large international efforts to catalogue the genes that influence the stature of humans, knowledge on genetic determinants of adult body height is still incomplete. Now DNA-based prediction of taller-than-average body height is feasible, as reported by researchers from the Netherlands and Sweden in an article published in Springer's journal *Human Genetics*.

In the study led by Prof. Manfred Kayser from the Department of Forensic Molecular Biology at Erasmus University Medical Center in Rotterdam, the Netherlands, 180 DNA variants previously implicated in normal height variation were tested in a Dutch European sample

consisting of 770 extremely tall cases, and over 9,000 normal height control subjects.

Over 90 percent of these DNA variants showed a height effect in the tall people, and for over 40 percent this effect was statistically significant. Predicting tall stature from these 180 DNA variants resulted in an accuracy of 0.75 on a scale from 0.5 (meaning random prediction) to 1.0 (completely accurate prediction).

"Although the achieved DNA-based prediction accuracy for tall stature is still somewhat lower than we previously established for [eye color](#), hair color and age," said Kayser, "I expect that upcoming new knowledge on height genetics will further increase the accuracy in predicting tall stature, and eventually the full range of body height, from DNA".

According to study collaborator Prof. Stenvert Drop from the Erasmus University Medical Center's Department of Pediatrics, "DNA-based prediction of extreme body height is relevant in pediatrics to estimate the expected body height of a child in adulthood, which can assist in considering growth limiting treatment."

Kayser, who previously developed predictive DNA tests for eye color, hair color and age, added, "In forensics, DNA-based prediction of appearance traits such as height, eye color, [hair color](#) and age, is useful to find unknown perpetrators whose conventional DNA profiles are not known to the investigating authorities and who thus escape current DNA identification."

More information: Liu et al. (2013). Common DNA variants predict tall stature in Europeans. Human Genetics [DOI: 10.1007/s00439-013-1394-0](#)

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