

Genome-wide study uncovers an increase of genetic distances towards Northern Europe

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A recent study shows that genetic differences in Central Europe appear smaller than between and even within North European populations.

The study, led by researcher Päivi Lahermo from Institute for Molecular Medicine Finland (FIMM) and University of Helsinki, Finland, and professor Juha Kere from Karolinska Institutet, Sweden, will be published in *PLoS ONE* journal October 24th, 2008.

"The understanding of genetic variation in human populations is important not only for obtaining information on population history, but also for successful studies of genetic factors behind human diseases," says Juha Kere.

Human population genetic studies have recently gained a new powerful tool from the analysis of densely spaced single nucleotide polymorphisms (SNPs) across the whole genome. In this study, almost 250 000 such polymorphisms were used to analyze genetic differences between the Germans, British, Eastern and Western Finns, and Swedes, based on ca. 1000 samples.

The Germans and British are genetically close to each other, which has been observed also in other recently published studies. In contrast, the genetic distances between the Swedes and Eastern and Western Finns are larger, and the diversity in these populations is lower.

The genetic difference between Eastern and Western Finland is

substantial in a European scale, and there are also clear differences between Finnish counties.

"The larger genetic distances in the north are caused by differences in population history: the northernmost parts of Europe were inhabited later than Central Europe and by fewer people, and have had smaller populations since then," says Päivi Lahermo.

The study can be freely downloaded from [dx.plos.org/10.1371/journal.pone.0003519](https://doi.org/10.1371/journal.pone.0003519) .

Source: University of Helsinki

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