

# Study: Neanderthal genes are a liability for COVID patients

September 30 2020, by Frank Jordans

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Credit: CC0 Public Domain

Scientists say genes that some people have inherited from their Neanderthal ancestors may increase their likelihood of suffering severe forms of COVID-19.

A study by European scientists published Wednesday by the journal *Nature* examined a cluster of genes that have been linked to a higher risk

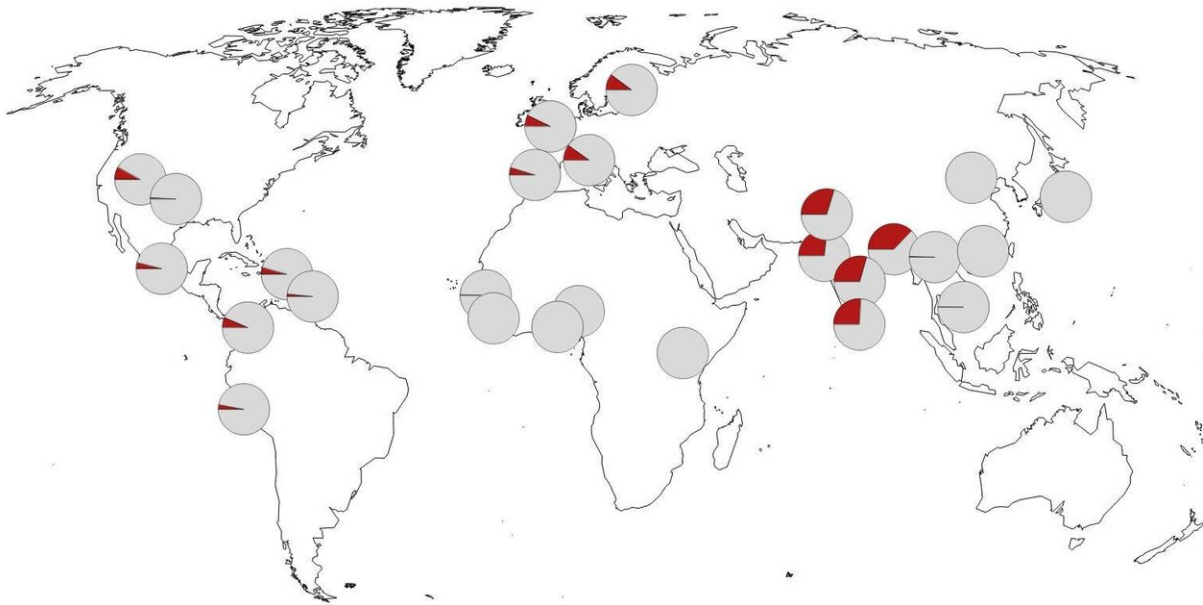
of hospitalization and respiratory failure in patients who are infected with the new coronavirus.

Researchers Hugo Zeberg and Svante Paabo determined that the genes belong to a group, or haplotype, which likely came from Neanderthals. The haplotype is found in about 16% of the population in Europe and half the population in South Asia, while in Africa and East Asia it is non-existent.

Modern humans and Neanderthals are known to have interbred at various points in history, resulting in an exchange of genes than can still be found today.

The genes are one of several risk factors for COVID-19, including age, sex and pre-existing conditions like obesity, diabetes and heart problems.

Zeberg and Paabo, who work at the Karolinska Institute in Sweden and the Max Planck Institute for Evolutionary Anthropology in Germany, noted that the prevalence of the particular Neanderthal gene group is highest in people from Bangladesh, where 63% are estimated to carry a copy of the haplotype.



These genetic variants are almost completely absent in Africa and occur in the highest frequency in Bangladesh. Credit: Professor Svante Pääbo and Professor Hugo Zeberg/*Nature*

They cited studies from the U.K. showing that people of Bangladeshi descent have about two times higher risk of dying from COVID-19 than the general population.

"It is striking that the genetic heritage from the Neanderthals has such tragic consequences during the current pandemic," Paabo said in a statement. "Why this is must now be investigated as quickly as possible."

But Andre Franke, director of the Institute of Clinical Molecular Biology at the University of Kiel, Germany, said the findings have no immediate impact on the treatment of COVID-19.

In a comment ahead of the study's final publication, Franke said one interesting question arising from the study is why that haplotype—unlike

most Neanderthal genes—survived until today.

"Perhaps it's good for a very active immune system if one doesn't have other risk factors," he suggested.

**More information:** Hugo Zeberg et al. The major genetic risk factor for severe COVID-19 is inherited from Neanderthals, *Nature* (2020).

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