Is one genetic mutation responsible for human endurance?

Studies suggest that a <u>mutation</u> caused humans to lose function of the CMAH gene two to three million years ago—around the same time humans seem to have developed an increased capacity for endurance running. Since CMAH is involved in making a sugar called Neu5Gc, humans, unlike most other mammals, no longer have this sugar.

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<u>Ellen Breen</u>, a UCSD physiologist involved in this work, also examined the muscles of mice that didn't express CMAH. She found that their hind limb muscles showed a greater resistance to fatigue and had more blood vessels. The team also observed changes in major metabolic pathways in these mice. Together, Okerblom says, their results suggest that loss of CMAH and the Neu5Gc sugar in mice may improve their muscles' capacity for oxygen use—perhaps by changing how oxygen enters cells.

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But not everyone agrees. "These scenarios are based on essentially one story about human evolution," says [physical anthropologist] <u>Jeffrey Schwartz</u>.

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"It's not as simple as people make it out to be." Given the complexity of human evolutionary history, he says, it's very difficult to draw conclusions about which genetic changes are connected to certain adaptations.

Read full, original post: Mutation May Explain Why Modern Humans Can Go the Distance