

# Are you the next Usain Bolt? The answer could be in your saliva

August 20 2009

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(PhysOrg.com) -- Scientists at Newcastle University are launching a ground-breaking study to find out why some of us can run faster than others - despite doing the same amount of training.

The research team, led by Professor Patrick Chinnery, is asking the 54,000 people taking part in next month's Bupa Great North Run to provide a saliva sample in a bid to find out whether our [DNA](#) is linked to race performance.

DNA - the genetic code we inherit from our parents - is important for our physical ability and previous work has shown that variations in the protein-building blocks of muscle can influence performance.

Now Newcastle University researchers want to examine [energy production](#) over a long distance.

They think that subtle differences in the DNA that is the blueprint for the energy-producing parts of the muscle - called mitochondria - influence physical fitness. They are now asking for the help of the thousands of Great North runners who will be tackling the 13.1 mile course.

With the help of race organisers, Nova International, an email has been sent to every runner asking if they would be willing to provide a [saliva](#) sample and their race number. The scientists will then find out the race time and see whether the DNA variants are linked to performance.

Professor Patrick Chinnery says, “The aim of this study is to find out whether our physical fitness is influenced by DNA - the [genetic code](#) that we have inherited from our parents.

“By comparing how many hours of training people have done against the genetic make-up of the energy-burning parts of their cells we hope to work out if there’s a link.

“We’re keen for as many as possible of the 54,000 runners to help us in this ground-breaking research - and the results could revolutionise the way people train in the future.”

The findings will develop understanding of the biology that underpins physical fitness and stamina - and could provide benefits for long-distance runners who wish to improve their performance and yet avoid dangerous complications.

Provided by Newcastle University

Citation: Are you the next Usain Bolt? The answer could be in your saliva (2009, August 20) retrieved 20 March 2024 from <https://medicalxpress.com/news/2009-08-usain-saliva.html>

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