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23andMe novel, Web-based/participant-driven GWAS replicates genetic associations

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23andMe, Inc., a leading personal genetics company, announced today that it has published the first data to come out of its novel participant-driven research program. The results, available online in the journal *PLoS Genetics,* replicate several known genetic associations, validating 23andMe's methodology and ushering in an era of more efficient genetic research.

"This paper announces and validates a revolutionary way of conducting scientific research," said Anne Wojcicki, 23andMe President and Co-Founder. "In this paper we confirm that self reported data from our customers has the potential to yield data of comparable quality as data gathered using traditional research methods. We are excited about moving scientific research forward, faster," continued Wojcicki.

In a traditional genome-wide association study (GWAS), researchers recruit people with (cases) and without (controls) a particular trait or condition. The physical characteristics or disease status of both groups are then correlated with their genetic data to find single letter differences in the DNA (single nucleotide polymorphisms, or SNPs) that are linked to the trait or condition.

Although this method has yielded many exciting insights into human genetics, it can be a slow and expensive process. The 23andMe web-based research framework, on the other hand, facilitates the rapid recruitment of participants to many studies at once, thus reducing the time and money needed to make new discoveries.

Principal Scientist Nicholas Eriksson summed up the power of 23andMe's approach, "Through 23andMe's web-based platform, the company can perform hundreds of studies in parallel. Our ability to contact individuals multiple times and ask follow-up questions puts us in a position to zero in on associations that could be the building blocks for future research aimed at prevention, better treatments, and potentially cures for a multitude of diseases and conditions."

Over 9,000 people contributed data to this 23andMe study of 22 separate traits. In addition to the replications of known genetic associations, several new discoveries were made. Novel SNP associations were revealed for hair curl, asparagus anosmia (the inability to detect the scent of certain asparagus metabolites in urine), the photic sneeze reflex (the tendency to sneeze when entering bright light), and freckling. Previously identified genetic associations between nine genes and certain pigmentation-related traits (hair color, eye color, and freckling) were replicated.

More information: The online paper may be viewed at www.plosgenetics.org/article/i … journal.pgen.1000993
The accompanying PLoS Genetics editorial can be found at www.plosgenetics.org/article/i … journal.pgen.1000965

Provided by 23andMe Inc.