



New genetic tools for differentiating “identical” twins: Eurofins develops first DNA test for forensic and paternity testing of twins

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Eurofins Scientific (EUFI.PA), one of the global leaders in Genomics Services, announces a research breakthrough in genetic discrimination between identical monozygotic twins.

Until now science has accepted the fact that monozygotic twins - also called “identical” twins from one fertilized ovum - could not be genetically discriminated. Even though there were theoretical considerations that monozygotic twins are not fully identical in their genome, no tools existed for forensic DNA fingerprinting in crime or paternity cases.

This has changed now. Eurofins, the European leader in genomic services, forensics and paternity tests, has successfully completed a genetic and forensic research project on twins. Based on the results Eurofins has developed the world’s first test to identify genetic differences between identical twins. These tests can now be used by authorities, courts and medicine to solve cases involving monozygotic twins as originator of DNA traces in crime, or as alleged parents.

Building on the long forensics and genomics expertise of Eurofins, the scientists used the unique combination of leading labs available at Eurofins to look at the differences in the genome of identical twins. For this purpose they applied Eurofins’ advanced sequencing and bioinformatics technologies. Genome sequencing is a technique that allows researchers to read and decipher the genetic information found in the DNA of anything from bacteria to plants to animals. The vast amounts of data collected in this process are then analysed by means of intelligent proprietary information technology, called bioinformatics.

The scientists investigated the genetic material taken from sperm samples of two twins and from the blood sample of the child of one twin. Bioinformatics analysis revealed five mutations, so called Single Nucleotide Polymorphisms (SNPs) present in the twin father and the child, but not in the twin uncle. These findings proved the hypothesis that rare mutations will occur early after or before the ovum has split into two, and that such mutations will be carried on into body and sperm cells.

The Eurofins “Twin Test” is available in all laboratories of the Eurofins Genomics Business Line. The test will be performed at the Eurofins DNA Campus in Ebersberg, at the laboratories of Eurofins MWG Operon and Eurofins Medigenomix Forensik GmbH.

For more information, please visit <http://www.eurofins.com/en/media-centre/press-releases.aspx> or contact:

Eurofins MWG Operon
Phone: +49 8092 8289-921
E-mail: carolagrimminger@eurofins.com