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Forensic research of DNA markers of hereditary disorders

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Such a socially important area, as the investigation of crimes, cannot exist in isolation from the progress in science - including molecular medical genetics, which in recent years is rapidly developing. Such research, however, require very strict legal regulation. In the context of compliance with legislation, study of health-related information is promising for the forensic examinations. It primarily concerns those cases when there is no a suspect, and the possibility of gaining of any search information on the individual who has left traces is critical. Many hereditary diseases are characterized by the distinct visible external signs which may be noticeable and can even serve as special signs. The forensic value of the detection in traces of the DNA markers of a certain hereditary disease may also consist in a preposition that the person could be observed for this disorder in a certain medical institution, or to be registered in a certain medical account, or subjected to the genetic testing, neonatal screening, etc. This information can be useful for the preposition of a certain contingent of persons and conducting search activities in relation to them. Phenotypic manifestations of hereditary diseases can be taken into account in the investigation also beyond the DNA analysis, in drawing up the subjective portrait of the person in question. With enrichment of knowledge about molecular-genetic nature of hereditary diseases the prognostic value of the detection of their DNA markers will be all the more rise, which may expand the basis for their forensic study.

Biography

Irina Perepechina is Professor of Department of Criminalistics of Legal faculty of Lomonosov Moscow State University. She has both medical and legal education, PhD degree (1990) and Doctor of Medicine degree (2003) in Forensic Medicine (genetic identification). Her scientific interests focus on forensic DNA analysis, DNA evidence interpretation, DNA database, DNA phenotyping, forensic serology; legal aspects, theory and methodology of forensic science/medical law. She has more than 120 scientific publications and manuals. She is a member of ISFG; in 1995-1999 - representative of Russian Federation in DNA WG of ENFSI. At the University, she lectures on forensic medicine, forensic genetics, criminalistics and forensic science.

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