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Do genes correlate with intelligence and decision making: A case-control study in Greek volunteers with elevated IQ

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Recently, a publication by Marinos et al showed no statistically significant genetic differences of intelligence and decision making characteristics between genders. Most study-volunteers were characterized by prudence and temperance of thought with only a small proportion being genetically spontaneous and adventurous. Regarding intelligence, the population was around average and a little above it. The edges of the scale suggested that only a small number of volunteers, although assumed "smartest", somehow lack prudence, concluding that intelligence and decision-making may be less linked to each other than expected. In this study, human personality characteristics (i.e., intelligence and decision making) were correlated with specific genetic polymorphisms in over 1000 Greek volunteers. Initially, the frequency distribution of rs324420, rs1800497, rs363050, rs6265 and rs1328674 polymorphisms, known to be involved in individual personality characteristics were determined. Subsequently, IQ scores were determined in 103 members of the Hellenic MENSA. Demographic data of both groups were obtained including, gender, age and gene frequencies and the Minor Allele Frequency (MAF) was calculated. All volunteers were anonymized after signing an informed consent. Intelligence and decision making scores were assigned following a simple algorithm where volunteers receive +1 or -1 for each genotype which theoretically is associated with an enhanced or relegated intelligence or decision-making, respectively. Indeed, preliminary data show that personality characteristics, derived genetically by genotype determination of rs324420, rs1800497, rs363050, rs6265 and rs1328674 polymorphisms have a close relationship to data derived from established IQ tests. These findings may be useful in targeted and personalized therapies of relevant disorders.

Biography

Nikolaos Drakoulis has studied Biochemistry at the University of Tubingen and Medicine at the Freie Universitat Berlin, Germany. He has received his PhD at the University of Berlin and specialized in Clinical and Molecular Genetics in Human Pharmaco-epidemiology, Clinical Pharmacology and Clinical Chemistry. He has worked at the Institutes of Clinical Pharmacology and Human Genetics, University of Berlin. He is a Professor of Clinical Pharmacy and Pharmacology, School of Health Sciences, Faculty of Pharmacy, University of Athens since 2001. He is a Member of numerous scientific committees, boards and societies and President of the Hellenic Society of Pharmacogenomics and Personalized Therapy and Diagnosis. He is the Head of Research Laboratory of Clinical Pharmacology and Pharmacogenomics at University of Athens.

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Page 85