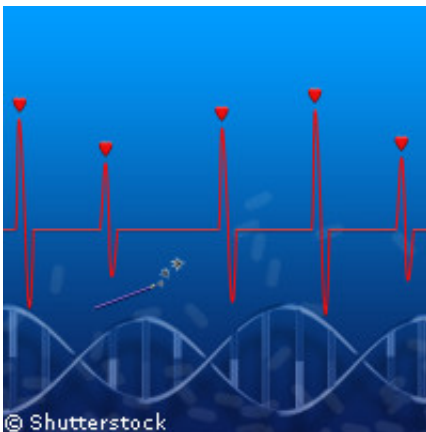


Discovery of gene locus associated with cardiovascular disease raises hope of new treatments

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An international team of researchers has discovered a gene locus that could help the development of new drugs to fight cardiovascular disease (CVD). The locus is associated with low-density lipoprotein (LDL) cholesterol, which plays a causal role in the development of diseases of the cardiovascular system.

Analysing genetic data from nearly 12,000 participants across five surveys in a genome-wide association study were scientists from the UK, Finland, the USA, Switzerland, Australia and Canada. They were able to pinpoint an association between LDL-cholesterol and a specific

chromosome region, a locus that had not previously been linked to lipid metabolism. Two of the scientists received financial support as part of the EU DIABESITY project.

'The results potentially provide insight into the biological mechanisms that underlie the regulation of LDL cholesterol and might help in the discovery of novel therapeutic targets for cardiovascular disease,' the scientists report in the current issue of the peer-reviewed journal *The Lancet*. Previous studies have shown that patients benefit from reducing LDL-cholesterol levels in the blood.

While the findings of the present study are corroborated by others, Dr Ronald Krauss of the Children's Hospital Oakland Research Institute, Oakland, USA, points out in a comment accompanying the paper that there is still more work to be done: 'In addition to the identification of new treatment targets, the discovery of genetic polymorphisms that affect LDL and other markers of [cardiovascular disease](#) risk could provide a means to categorise specific phenotypes that might merit different treatments and to identify at-risk individuals.'

'These polymorphisms probably include a high proportion of regulatory variants that would be of particular clinical interest because of the potential for modulation by preventive or therapeutic measures,' Dr Krauss adds. 'Overall, to discover further genetic effects on LDL cholesterol, additional candidate genes must be identified from studies of biological pathways or clinical cases, or genome-wide searches will be needed in even larger and more diverse populations, with more complete genotyping or resequencing and with acquisition of potentially relevant environmental information.'

Diseases of the heart and circulatory system are the main cause of [death](#) in the European Union, accounting for over 1.9 million deaths each year. According to the British Heart Foundation Statistics Website, 42% of all

deaths in the EU (46% deaths in women and 39% deaths in men) are caused by CVD - slightly less than for Europe as a whole (49%). Between one-third and a half of deaths from CVD stem from coronary heart disease, and around a quarter from a stroke.

Provided by CORDIS

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