MedicalXpress

Common gene variant found to regulate iron levels

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(PhysOrg.com) -- An international research team including researchers at UQ's Diamantina Institute and the Queensland Institute of Medical Research has identified a new variant of a gene that helps to regulate iron and haemoglobin levels.

The findings improve our understanding of iron metabolism and may have implications for the management of iron overload and hereditary anaemia.

The paper was published this week in Nature Genetics.

A new variant of the gene TMPRSS6 was identified by studying the genome of 4,800 healthy individuals from Australian and the Netherlands. The gene has previously been linked to a severe form of anaemia and these findings provide information about the subtle natural variation in iron control amongst healthy people.

According to QIMR researcher, Dr Beben Benyamin, an iron imbalance can lead to a range of diseases - an overload can cause haemochromatosis which may cause liver failure; a deficiency may result in anaemia.

"This research gives us a better understanding of the genetic influences of iron control and red cell production," he said.

"We hope to continue to search for other genes involved in the

regulation of iron levels in otherwise healthy individuals."

The variant has been found to be common in all populations. It is estimated that 40 percent of Europeans and 60 percent of Asian populations have this variant.

The researchers also found that the variant has an additive effect. A person with two copies of the variant has lower iron and haemoglobin levels than those carrying only one copy.

Provided by UQ