

Cardiovascular killer protein probed by researchers

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Probing the molecular breakdown of a little-known "killer" lipoprotein, responsible for many cases of heart disease and other cardiovascular conditions, has given University of Otago scientists new insights into how it is metabolised by the body.

In a recent paper published in the international journal *Circulation Research*, Professor Sally McCormick and colleagues show how people's livers process lipoprotein(a), or Lp(a), and send part of it back into their bloodstreams.

Having high levels of this cholesterol-rich lipoprotein in the blood is known to be a clear risk factor for developing cardiovascular disease (CVD), Professor McCormick says.

"Lp(a) levels, independent of other [cardiac risk factors](#), are known to be a reliable predictor of CVD. Studies in European populations show that 20 per cent of the general [population](#) have an elevated Lp(a) level that doubles their risk of developing CVD. The situation is worse if you are in the five per cent of the population with extremely high levels, these people face a three- to four-fold risk."

"Lp(a) has been shown to have many properties that promote CVD including inflammatory, growth promoting and blood clot-generating properties. But up until now we haven't known much about how it is metabolised by the [liver](#), the main tissue that removes it from the bloodstream," she says.

Now, the Otago research team has identified the receptors in the liver responsible for the [lipoprotein](#)'s removal and that part of the Lp(a) molecule is recycled and re-secreted from the liver after uptake.

"This work provides us with potential targets with which to lower Lp(a) levels and reduce [heart disease](#) risk," says Professor McCormick.

Provided by University of Otago

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