

Enzyme is key to clogged arteries

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Scientists at Queen Mary, University of London have made an important discovery in understanding what causes arteries to clog up.

They have discovered that an [enzyme](#) called matrix metalloproteinase-8 plays a crucial role in raising blood pressure and causing abnormal build-up of cells in the arteries - both of which increase the risk of heart disease.

Heart disease is the number one cause of death in the UK. The scientists say that their research could lead to new drugs for treating high blood pressure and preventing heart disease.

Shu Ye, Professor of Molecular Medicine and Genetics at Queen Mary, University of London led the study. He explained: "Our research tells us that this enzyme plays a crucial role in the build-up of [fatty deposits](#) in the arteries which causes heart disease.

"Many patients with high blood pressure or [heart failure](#) are currently treated with ACE inhibitor drugs. However, some patients do not respond sufficiently to ACE inhibitors alone. We hope that what we've found here could be the basis for new drugs that can enhance the effects of ACE inhibitors, which would reduce deaths from [heart disease](#)."

The researchers studied mice which were genetically altered so they could not produce the MMP8 enzyme. The mice were fed on a Western-style diet high in fat and cholesterol and compared to normal mice fed on the same diet. The mice which lacked the enzyme had clearer arteries and lower [blood pressure](#).

The researchers also studied 2,000 patients who were being tested for clogs in arteries leading to their hearts with a test called a coronary angiogram. They found that around 25 per cent of these patients had a slightly different version of the gene for MMP8 and their [arteries](#) were more clogged than other patients.

More information: *Circulation Research* ([doi:10.1161/CIRCRESAHA.109.200279](https://doi.org/10.1161/CIRCRESAHA.109.200279)).

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