

An omega-6 fatty acid could help in fight against heart disease

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An omega-6 polyunsaturated fatty acid has the potential to help fight heart disease, finds a new study by researchers at Cardiff University, in collaboration with Ben-Gurion University of the Negev.

With funding from the British Heart Foundation, the team found that dihomo-gamma-linolenic acid (DGLA), an omega-6 polyunsaturated fatty acid, could halt the progression of atherosclerosis—one of the leading causes of [heart disease](#).

Professor Dipak Ramji, from Cardiff University's School of Biosciences, said: "While omega-3 polyunsaturated fatty acids, found in fish oils, have proved effective in limiting atherosclerosis, the roles of omega-6 polyunsaturated fatty acids in the disease remain poorly understood.

"Our research indicates that the omega-6 fatty acid DGLA can have a [positive effect](#) on atherosclerosis at several stages, particularly by controlling key processes associated with inflammation and the ability of the cells to take up and process cholesterol.

"We also observed the protective effects of DGLA on key atherosclerosis-associated processes in [endothelial cells](#) and [smooth muscle cells](#)—two other important cell types involved in the disease.

"This collaborative work opens up new and exciting avenues for research on the use of DGLA in the prevention and treatment of atherosclerosis. The challenge now is to take our findings and examine whether they translate into humans."

Cardiovascular disease causes one in three deaths worldwide and in the UK is responsible for almost 170,000 deaths each year. Atherosclerosis is associated with narrowing of the arteries due to inflammation and fatty deposits.

Current atherosclerosis therapies can have side effects and so researchers are increasingly exploring how the use of active food ingredients could help to prevent and treat the disease.

Dr. Subreena Simrick, Senior Research Advisor at the British Heart Foundation said: "This work contributes to the growing evidence that the omega-6 [polyunsaturated fatty acid](#), DGLA, could prevent the progression of atherosclerosis. By identifying some of the factors involved, we have a better understanding of how this active ingredient found in our diet works at the cellular level. These findings could help pave the way towards DGLA being used to combat atherosclerosis."

The research "Dihomo-gamma-linolenic [acid](#) inhibits several key cellular processes associated with atherosclerosis' was published in *Biochimica et Biophysica Acta -Molecular Basis of Disease*.

More information: Hayley Gallagher et al. Dihomo- γ -linolenic acid inhibits several key cellular processes associated with atherosclerosis, *Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease* (2019). [DOI: 10.1016/j.bbadis.2019.06.011](https://doi.org/10.1016/j.bbadis.2019.06.011)

Provided by Cardiff University

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