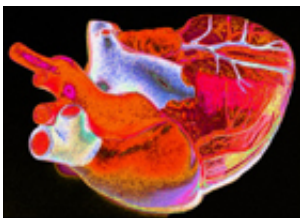


# 'Fountain of youth' steroids could protect against heart disease

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(PhysOrg.com) -- A natural defence mechanism against heart disease could be switched on by steroids sold as health supplements, according to researchers at the University of Leeds.

The University of Leeds biologists have identified a previously-unknown [ion channel](#) in human blood vessels that can limit the production of inflammatory cytokines - proteins that drive the early stages of heart disease.

They found that this protective effect can be triggered by pregnenolone sulphate - a molecule that is part of a family of 'fountain-of-youth' steroids. These steroids are so-called because of their apparent ability to improve energy, vision and memory.

Importantly, collaborative studies with surgeons at Leeds General infirmary have shown that this defence mechanism can be switched on

in diseased blood vessels as well as in healthy vessels.

So-called 'fountain of youth' steroids are made naturally in the body, but levels decline rapidly with age. This has led to a market in synthetically made steroids that are promoted for their health benefits, such as pregnenolone and DHEA. Pregnenolone sulphate is in the same family of steroids but it is not sold as a health supplement.

"The effect that we have seen is really quite exciting and also unexpected," said Professor David Beech, who led the study. "However, we are absolutely not endorsing any claims made by manufacturers of any health supplements. Evidence from human trials is needed first."

A chemical profiling study indicated that the protective effect was not as strong when cholesterol was present too. This suggests that the expected benefits of 'fountain of youth' steroids will be much greater if they are used in combination with cholesterol-lowering drugs and/or other [healthy lifestyle](#) strategies such as diet and exercise.

"These 'fountain of youth' [steroids](#) are relatively cheap to make and some of them are already available as commercial products. So if we can show that this effect works in people as well as in lab-based studies, then it could be a cost-effective approach to addressing cardiovascular health problems that are becoming epidemic in our society and world-wide," Professor Beech added.

The paper is published in *Circulation Research*.

**More information:** "Pregnenolone sulphate- and cholesterol-regulated TRPM3 channels coupled to vascular smooth muscle secretion and contraction" by Jacqueline Naylor, Jing Li, Carol J. Milligan, et al is published in *Circulation Research* ([doi:10.1161/circresaha.110.219329](https://doi.org/10.1161/circresaha.110.219329)).

Provided by University of Leeds

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