

Press release**Karl-Franzens-Universität Graz****Mag. Gudrun Pichler**

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<http://idw-online.de/en/news663307>Research results, Scientific Publications
Biology, Medicine, Nutrition / healthcare / nursing
transregional, national**Graz scientists discover that spermidine protects the heart**

They truly seem to have found the fountain of youth: Researchers in Prof. Dr. Frank Madeo's working group of the University of Graz have recently shown that spermidine can reverse age-related memory loss. Now, working together with colleagues from the Medical University of Graz and an international team, the scientists have discovered a further beneficial effect of this natural substance, spermidine, on the heart. The researchers have published their newest discoveries in the prestigious scientific journal Nature Medicine.

Many elderly people develop an increase in heart wall thickness accompanied with the loss of heart elasticity, resulting in the development of age-related heart failure with reduced quality of life, shortness of breath and effort intolerance. This form of heart failure (diastolic heart failure) has so far no effective treatment and together with increased blood pressure represents common causes of death in the western world. However, Drs. Tobias Eisenberg, Frank Madeo (University of Graz), Simon Sedej and Mahmoud Abdellatif (Medical University of Graz), in collaboration with an international team of 59 researchers from 36 universities and institutes in eight countries, were able to prove that spermidine can protect the heart from these cardiovascular diseases.

In animal models, spermidine improved heart elasticity as well as relaxation, while it reduced heart wall thickness. Therefore, the heart can relax better between consecutive beats and fill with more blood. Moreover, the researchers found that spermidine reduced arterial blood pressure, further contributing to a better cardiac function. Together with Dr. Stefan Kiechl (Medical University of Innsbruck), the team was able to show that people consuming larger amounts of food rich in spermidine (e.g. wheat germ, mushrooms, some types of cheese, peas and nuts) are less likely to die due to heart disease and have lower blood pressure.

Current research is undertaken in the framework of BioTechMed-Graz, a cooperation venture and network of the University of Graz, the Medical University of Graz and Graz University of Technology founded with the aim of undertaking health research.

Paper:

Cardioprotection and lifespan extension by the natural polyamine spermidine

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