



## Milk Proteins Protect against Cardiovascular Disease



According to a new study published in the Journal of Dairy Science, some proteins and sugars mixed together and heated into new compounds and flavours may protect against cardiovascular disease.

Researchers at the R&D Center, Seoul Dairy Cooperative, the College of Life Science & Biotechnology, Korea University, and the BK21 Plus Graduate Program, Department of Animal Science and Institute Agricultural Science & Technology, Chonbuk National University in South Korea, show that dietary compounds formed in milk-based products reduced serum total and LDL levels and triglycerides in mice. They also show that these compounds offered protection against acute pulmonary thromboembolism.

Whey protein concentrate and sodium caseinate when heated with lactose form whey-protein Maillard reaction products (wMRP). Lactic acid bacteria produce fermented MRPs (f-MRP) and Sodium caseinate alone when reacted forms Maillard-reacted sodium caseinate (cMRP) and can be further fermented to f-cMRP.

In this study, the researchers divided 60 mice into four treatment groups. Group 1 received phosphate buffered saline (PBS) (negative control), group 2 received aspirin (positive control), group 3 received wMRP, and group 4 received f-MRP in addition to a normal diet. Antioxidant activity and cholesterol reduction effects of fermented cMRP were assessed in another group of 60 mice who were given diets with and without f-cMRP.

"This is the first report describing the verification for the impacts of MRPs and their fermented product in cardiovascular risk using animal model," explained lead investigator Younghoon Kim, PhD, of the Department of Animal Science, Chonbuk National University, Republic of Korea, "In addition, our findings represent a real advance in the area of milk proteins and indicate that f-cMRP and cMRP could be recommended for use as potential antioxidants and cardioprotective ingredients for various functional, pharmaceutical, and dairy applications."

Matt Lucy, PhD, Editor-in-Chief, Journal of Dairy Science, and Professor of Animal Science, University of Missouri, highlights that dairy products may benefit human health beyond the traditional nutrients as seen in the findings of this study. Milk proteins may have the potential to improve cardiovascular health.

Source: Journal of Dairy Science

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