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Morin, a flavonoid, prevents lysosomal damage in experimental myocardial ischemic rats

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Abstract

The present study was designed to investigate the preventive effect of morin on lysosomal enzymes in isoproterenol (ISO) treated myocardial infarcted rats. Myocardial ischemia was induced by subcutaneous injection of ISO hydrochloride (85 mg/kg BW, twice at an interval of 24 h) for two consecutive days. The morin (40 mg/kg BW) was administered daily for 30 days and subsequently two doses of ISO administered on 29th and 30th days. The activities of lysosomal enzymes β-glucuronidase, β-N-acetylglucosaminidase, β-galactosidase, cathepsin-B and D were increased significantly ($P<0.05$) in the serum and heart of ISO-induced cardiotoxic rats. The pretreatment of morin and two doses ISO treated rats exhibited significant ($P<0.05$) reduction of these lysosomal enzymes activities. Morin protects the lysosomal membrane damage against ISO-induced cardiac damage as evidenced by reduced activities of these lysosomal enzymes.

Biography

Khalid S. Al-Numair is working as a Professor of Nutrition Science in the College of Applied Medical Sciences, King Saud University. He got his Bachelor degree in Food and Nutrition and Ms in Human Nutrition from the King Saud University, Riyadh, Saudi Arabia. He obtained his PhD in Community and Applied Nutrition, from University of Nebraska, USA April, 2004. In addition he performed many Administrative responsibilities being the Vice-President Assistant for graduate studies and scientific research, 2009-Present; Consultant, Vice President for Knowledge Exchange and Technology Transfer, 2008-Present; and Deputy director of Prince Sultan Bin Abdulaziz International Program for Distinguished Research 2008-2009. Dr. Khalid and along his university career excelled himself as a distinguished fellow for instance he got the Publication Quality Awards, KSU,2009; Prince Bandar Ben Sultan Al-Saud's Academic Excellence Award for doctoral degree, USA, 2004; Outstanding Student, Intensive English Program, University of Nebraska-Lincoln, USA, 1999; The Ideal Student's Award - College of Food Sciences and Agriculture, King Saud University, 1995; and the Social Activities Excellence Award, College of Food Sciences and Agriculture, KSU, 1995. He has published a good number of papers in reputed journals and serving as an editorial board member in various journals.