

ORIGINAL RESEARCH

Pre-Clinical Study: Antioxidant Levels and Immunomodulatory Effects of Wolfberry Juice and Other Juice Mixtures in Mice

ABSTRACT

Although wolfberry juice, derived from the fruit of *Lycium barbarum*, has been purported by Chinese researchers to augment immune response, there is a paucity of information in scientific literature about its effects. This study was designed to evaluate the immunomodulatory effects of wolfberry juice, individually and in mixtures with other juices, using a mouse model. The antioxidant activity of wolfberry juice, and 1:1 mixtures of wolfberry juice:raspberry juice, wolfberry juice:blueberry juice, wolfberry juice:apricot juice, and wolfberry juice:pomegranate juice was analyzed. After intraperitoneal injection of these juices into mice, their impact on splenic weight and the number of splenic macrophages was investigated. Results showed that as levels of antioxidants increased in wolfberry juice mixtures, there was a corresponding increase in macrophage numbers in the spleen. The increase was most significant following injection of wolfberry juice:blueberry juice and wolfberry juice:raspberry juice. There was also a significant increase in spleen weight in mice exposed to the wolfberry and juice mixtures in each instance. Wolfberry juice and its mixtures were shown to have immunomodulatory effects in mice by increasing splenic macrophages and splenic weight.

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A Peer-Reviewed Journal on Nutraceuticals and Nutrition

**Editor-in-Chief
Mark Houston, M.D.**

ISSN-1521-4524