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[Randomized Controlled Trial](#) [Hypertens Res.](#) 2016 Jun;39(6):449-56. doi: 10.1038/hr.2016.7.

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Blood pressure-lowering effect of Korean red ginseng associated with decreased circulating Lp-PLA2 activity and lysophosphatidylcholines and increased dihydrobiopterin level in prehypertensive subjects

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Abstract

We evaluated the effects of red ginseng consumption on blood pressure (BP) and the fasting plasma metabolome. This randomized, double-blind, placebo-controlled study included nonobese, nondiabetic, prehypertensive subjects consuming 10 capsules daily containing 5 g red ginseng (n=31) or placebo (n=31). Fasting plasma metabolome profiles were obtained using ultra performance liquid chromatography-linear trap quadrupole Orbitrap MS. After 12 weeks, participants consuming red ginseng showed reductions of 6.5 and 5.0 mm Hg in systolic and diastolic BP, respectively. Compared with controls, those consuming red ginseng showed greater reductions in changed values of systolic BP, diastolic BP and lipoprotein-associated phospholipase A2 (Lp-PLA2) activity, after adjusting for baseline values. In addition, the red ginseng group showed a greater increase in dihydrobiopterin levels and greater decrease in palmitic amide and lysophosphatidylcholines (lysoPCs). The change in diastolic BP positively correlated with changes in lysoPCs and Lp-PLA2 activity. The BP-lowering effect of red ginseng is associated with decreased Lp-PLA2 and lysoPCs and increased dihydrobiopterin levels in prehypertensive subjects (ClinicalTrials.gov: [NCT02326766](#)).

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