Abstract

Aronia berries and their derivatives have beneficial effects on lifestyle-related diseases. Drinking of aronia juice reduced the blood glucose levels of type 2 diabetes and obesity model KKA mice. Cyanidin 3,5-diglucoside, a metabolite of the berries, inhibited dipeptidyl peptidase IV (DPP IV) activity. However, the mechanisms of the beneficial effects are only partly elucidated. In this study, to find bioactive polyphenols in aronia juice, polyphenols were isolated from the juice and their health effects were examined. Aronia juice contained various polyphenols that inhibited a-glucosidase, DPP IV, hydroxymethylglutaryl-CoA (HMG-CoA) reductase and lipid accumulation, respectively. Cyanidin 3,5-diglucoside showed an anti-diabetic effect but no anti-obesity effect. The effect of HMG-CoA reductase inhibiting polyphenols on cholesterol levels of obesity model mice is under investigation.

Caffeoylquinic acids from aronia juice inhibit both dipeptidyl peptidase IV and alpha-glucosidase activities

Anti-obesity effects of aronia juice and two probable mechanisms

Isolation of HMG-CoA reductase inhibitors from aronia juice

Conclusions