

Antihypertensive and Angiotensin I-Converting Enzyme-Inhibitory Effects of the Leaves of *Sesamum indicum* and Bioactive Compounds

Takahiro Kitagawa, Hibiki Tashiro, Takuhiro Uto

Abstract

Sesame (*Sesamum indicum* L.) is an important oilseed crop, and its seeds are a source of edible oil and widely used as a nutritious food that is beneficial to health in oriental countries. Phytochemical and biological investigations of the seeds have been well reported; however, those of the leaves have been limited. To explore the potential value of sesame leaves, we focused on their antihypertensive potency. Oral administration of sesame leaf extract significantly reduced blood pressure in spontaneously hypertensive rats. Next, we examined the angiotensin I-converting enzyme (ACE)-inhibitory activity of sesame leaves, stems, and seeds and observed that the inhibitory potencies of leaves and seeds were stronger than those of stems. Acteoside and pedaliin, the major compounds in the leaves, as well as exhibited ACE inhibitory activity. Furthermore, we determined the content of these compounds in the leaves, stems, and seeds using LC/MS. The contents of both compounds in the leaves were higher than those in the stems and seeds. These results suggest that sesame leaf extract can mitigate hypertension, at least in part, *via* the inhibition of ACE activity by acteoside and pedaliin, suggesting that sesame leaves may have the potential to be used for treating hypertension.