



当研究室（森林圏環境資源科学研究室）の清水邦義准教授、譚慧さん(平成 27 年 10 月学位取得)らの学術論文が Journal of Agricultural and Food Chemistry の表紙(front cover)を飾りました。

### 論文タイトル

Ursolic Acid Isolated from the Leaves of Loquat (*Eriobotrya japonica*) Inhibited Osteoclast Differentiation through Targeting Exportin 5

### 著者

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### 論文の概要

Our previous study revealed that ursolic acid isolated from leaves of loquat (*Eriobotrya japonica*) suppressed osteoclastogenesis (*J. Agri. Food. Chem.* 2014, 62, 835-841), but its mechanism of action is not clear.

To clarify the mechanism of action behind it, here we performed an affinity-based proteomic screening using polymer-coated magnetic nanobeads to identify the target protein of ursolic acid in the osteoclast. We found that ursolic acid binds covalently to nuclear export protein exportin 5 (XPO5). The osteoclastogenesis phenotype induced by knockdown of XPO5 with siRNA was similar to that caused by the treatment of ursolic acid. Profiling the mature microRNAs (miRNAs) expression demonstrated

that miRNA let-7g-5p production was significantly suppressed by the XPO5 knockdown or ursolic acid treatment during osteoclastogenesis.

These findings suggest that ursolic acid inhibits osteoclast differentiation through targeting XPO5, which provides further evidence for the healthy function of the tea. This study also provides new insights into the role of XPO5 and its mediated microRNAs in treatment for bone resorption diseases.

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