



Biotransformation of Oleanolic Acid by *Penicillium melinii*

Ting AI ^{1,2}, Huijun YAN ², Ying LIU ², Hao LIU ², Dailin LIU ^{1,2*} & Hong CHEN ^{1,2}

¹ *Tianjin Key Laboratory for Biomarkers of Occupational and Environmental Hazard, Tianjin 300162, China*

² *Department of Pharmacognosy, Medical College of Chinese People's Armed Police Forces, Tianjin 300162, China*

SUMMARY. Oleanolic acid (**1**) is a bioactive compound widely distributed in nature. Microbial transformation is an effective way to alter the structures of compounds. The result of biotransformation of oleanolic acid was carried out in this paper. Four transform products (**2-5**) from **1** by *Penicillium melinii* were isolated. Their structures were established by spectral data interpretation as 21 β -hydroxyoleanolic acid (**2**), 21 α -hydroxyoleanolic acid (**3**), canthic acid (**4**), and 7 α , 21 β -dihydroxyl oleanolic acid (**5**). Compound **3** had stronger antibacterial activities against MRSA and *Staphylococcus aureus* than the substrate. It was reported for the first time that the hydroxylation products of oleanic acid can be obtained by biotransformation using incubation with *Penicillium melinii*.

KEY WORDS: Antibacterial activity, Biotransformation, Oleanolic acid, *Penicillium melinii*, Triterpenoid.

*Author to whom correspondence should be addressed: Email: liudailinlch@hotmail.com