

## 데커시놀 파생물질들의 항징균제로서의 활용

신윤정<sup>1†</sup>, 신지영<sup>2,3†</sup>, 장혜원<sup>1</sup>, 손호경<sup>4\*</sup>, 권용훈<sup>4\*</sup>

<sup>1</sup>서울대학교 농업생명과학대학, 박사과정 학생, <sup>2</sup>선임연구원, <sup>4</sup>교수,

<sup>3</sup>국립호남권생물자원관 자원은행부, 전임연구원

## Decursinol Derivatives Useful as Fungicides

Yun-Jeong Shin<sup>1†</sup>, Jiyoung Shin<sup>2,3†</sup>, Hyewon Jang<sup>1</sup>, Hokyoung Son<sup>4\*</sup> and Yonghoon Kwon<sup>4\*</sup>

<sup>1</sup>Ph.D. Course Researcher, <sup>2</sup>Senior Researcher, and <sup>4</sup>Professor, Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Korea

<sup>3</sup>Associate Researcher, Department of Bio-IT, Honam National Institute of Biological Resources, Mokpos-si, Korea

Natural products decursin and decursinol angelate were recently reported as benign fungicides for controlling rice blast. Inspired by the structural similarity of the coumarin compounds and gained hint from the skeletal motifs, we designed and prepared synthetic compounds to increase the natural product efficacy and evaluated their antifungal activities against various plant disease pathogens *in vitro*. Synthetically prepared compound 4 and 5 indeed suppressed the mycelial growth of *B. cinerea*, *F. oxysporum*, *P. italicum*, and *R. quercus-mongolicae*. Additionally, compound 5 effectively prevents the growth of *C. coccodes* and *C. parasitica*. Furthermore, both 4 and 5 possess better inhibitory activities on spore germination of *F. oxysporum* and *M. oryzae* than the natural product decursin. These results suggest that the effect of the lead compound for plant disease protection can be improved by tuning the structure of the original natural product and decursinol chloroacrylates 4 and 5 are candidates for the control of *F. oxysporum* and *M. oryzae*.

[본 연구는 농촌진흥청(사업번호: PJ016243022021)의 지원에 의해 이루어진 결과로 이에 감사드립니다.]

\*(Corresponding author) hogongi7@snu.ac.kr; y\_kwon@snu.ac.kr, Tel: +82-2-880-4681