

Biotransformation of Phloretin through hydroxylation using *Streptomyces Avermitilis*

김우일, 김준형*, 노지원, 이종기
동아대학교
(june0302@dau.ac.kr*)

Currently over 4,000 flavonoids have been identified, many of which occur in fruits, vegetables and beverages. The flavonoids have aroused considerable interest recently because of their potential beneficial effects on human health. Microorganisms are well known for their abilities to catalyze many types of useful biotransformation reactions with flavonoids including hydroxylations and methylations. Twelve microorganisms were initially screened for their abilities to catalyze biotransformation of phloretin. *Streptomyces avermitilis*, two main products were identified in GC/MS analysis. They were interpreted as hydroxylated products of phloretin in A-ring at different position. (mass increase 179→267, 192→280) This result confirmed hydroxylation considering BSTFA derivatization of hydroxylated product. Maximum conversion was 6.7 %, which was achieved for 1 hours of reaction, and the substrate (phloretin) and reaction product was completely metabolized after 3 hours of reaction. More data will be presented including P450 inhibitor assay and detergent experiment.