

P450 mediated hydroxylation of phloretin using *Streptomyces avermitilis*

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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. Three kinds of Cytochrome P450 inhibitor, Coumarin, Erythromycin and Quinidine was added with 0.5mM final concentration to find out the role of P450 enzymes. P450 amplified and deleted *Streptomyces* were also used to confirm the role of P450 enzyme.