

Hydroxylation of the phloretin using *Streptomyces avermitilis* MA4680

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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. After HPLC and GC/MS analysis, they were interpreted as hydroxylated product of substrate at meta or ortho position. We confirmed P450 activity in the future research. Three kinds of Cytochrome P450 inhibitor(Coumarin, Erythromycin and Quinidine) was added with 0.5mM final concentration. P450 inhibitors did not affect the biotransformation meaning that this reaction proceed by another type of enzymes such as hydroxylase or oxidase. So we will confirm p450 activity using genetically mediated organism test in future study.