

Regio-specific hydroxylation of isoflavone by radiation fusion technology

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Ortho-dihydroxyisoflavones are a growing scientific interest that enhances health-related qualities in humans. Ortho-dihydroxyisoflavones has shown invaluable biological activity for lowering several health issues such as incidences of cancer-related diseases, anti-oxidants, anti-inflammatory and anti-carcinogenic property. Regio-specific hydroxylation of aromatic compounds by chemical synthesis is difficult and involves diverse reaction steps. The conversion of a carbon-hydrogen to a carbon-hydroxyl bond is one key attribute of the oxidative metabolism of many aromatic compounds. Regio-specific microbial hydroxylation on a non-activated carbon atom of aromatic compounds is an appealing and remarkable biosynthesis. The introduction of hydroxyl groups into isoflavones by the use of microorganisms represents an engaging alternative to conventional chemical synthesis. The selective modification of isoflavones by recombinant microbial systems is a powerful approach. Here, we introduce altered microorganisms which can suggest the regio-specific modification of daidzein by radiation fusion technology. This issue provides opportunities for the development of new methodologies in mutant discovery.