

Microbial process for production of Piceatannol

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Piceatannol (3,3',4,5'-trans-trihydroxystilbene), a naturally occurring hydroxylated analogue of resveratrol, is less studied than resveratrol but displays a wide spectrum of biological activity (Piotrowska et al. 2012). Piceatannol has been found in various plants, including grapes, passion fruit, white tea, and Japanese knotweed. Besides antioxidative effects, Piceatannol exhibits potential anticancer properties as suggested by its ability to suppress proliferation of a wide variety of tumor cells, including leukemia, lymphoma; cancers of the breast, prostate, colon and melanoma. This is first report elucidating production of anti-cancer compound using microbial process for regio-specific hydroxylation of resveratrol. This study has significant scope that a biotransformation result provides one initiative example such that regio-specific hydroxylated compound from resveratrol showing more potent biological activity could be produced in large scale using microbial biotransformation. Thus, microbial processes become a good model system to develop an industrial biotransformation system to produce drugs and antibiotics for treasure islands.