

The production of the next generation anti-cancer drug Epothilone using Myxobacterium Sorangium cellulosum

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Epothilones are secondary metabolites that are naturally produced by the myxobacterium Sorangium cellulosum. They are potent inhibitors of microtubule depolymerization, with a mechanism of action similar to that of the anti-cancer drug Taxol. However, their efficacy against Taxol-resistant tumor cell lines and higher water solubility potentially position epothilones to be the next generation of chemotherapeutic compounds for the treatment of cancer.

Epothilone A and B are the major products of the natural host. It has been known that malonyl-CoA and methylmalonyl-CoA are source for production of Epothilone A and Epothilone B respectively. In this study, We designed medium composition for selective production of Eopithilone B because Epothilone B is more effective anti-tumor agent than Epothilone A.