Inosine Formation from Hydrocarbons by Corynebacterium petrophilum

It is well known that purine-auxotrophic mutants derived from many kinds of bacteria produced purine derivatives from carbohydrates, but the formations of these derivatives from the carbon source other than carbohydrates have not been known yet. It is interesting to examine the possibility of using hydrocarbons as the new carbon source for the fermentative production of purine derivatives.

Various kinds of auxotrophic mutants were derived by UV-irradiation from Corynebacterium petrophilum nov. sp. SB-4082, which produced L-glutamic acid from hydrocarbons in the addition of penicillin to the growing culture. It was found that some of them have the ability of accumulating inosine and a little amount of hypoxanthine from hydrocarbons as carbon sources. One of the adenine-requiring mutants showed the high level of inosine productivity from hydrocarbons but did not form inosine from the carbohydrates such as glucose (Table I.).

It will be very interesting to make clear the differences between hydrocarbons and carbohydrates as the carbon source for the inosine formation by this strain.

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