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A Comparative Analysis of the Citrinin Encoded DNA Sequence from A Collection of *Monascus purpureus* Isolates

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Abstract : *Monascus purpureus* is fungal species commonly used in the red mold fermented rice production or known as angkak. Angkak is an important source of the natural coloring agent for food as well as bioactive compounds for nutraceuticals. However, *Monascus* may also produce hepato-nephrotoxic citrinin. To some extent the citrinin is genetically regulated by the pksCT gene. Here we present a comparative analysis of pksCT DNA sequences derived from ten isolates of *M. purpureus*. The phylogenetic analysis indicates that the pksCT sequence is closely related with the ones of reference *M. aurantiacus* and *M. ruber*. However, the genetic distance analysis does not reveal the common ancestry yet. More analysis indicates there are a gap and substitution at the position 14698 to 15040. Whether this is a significant mutation need to be further studied since two isolates still showed production of the citrinin as the other *Monascus* isolates possibly have similar potency. Therefore, care must be concerned in the angkak production.
Keywords : Monascus purpureus, Comparative analysis, Citrinin Encoded DNA Sequence.

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