

Development of process for the Production of Coenzyme Q₁₀

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Coenzyme Q₁₀ (2,3-dimethoxy-5methyl-6-decaprenyl-1,4-benzoquinone), or Ubiquinone is a vitamin-like substance that exists in cells and is essential for the health of all the tissues and organs of the body. It plays an important function as an electron transmission system in organism. In addition, it has been shown that Coenzyme Q can act as an antioxidant, protecting numerous cellular membranes and plasma lipoproteins from free radical-induced damage. It is known to exhibit an excellent pharmaceutical effect against various disease.

In this study, optimization process for coenzyme Q₁₀ production by yeast *Rhodotorula sp.* was carried out in order to find optimal condition of cultivation using powerful statistical methods such as Plakett-Burman design. And we developed an accurate method for measuring concentration of coenzyme Q₁₀.

In parallel with development of process for the production of coenzyme Q₁₀, high yielding mutants obtained through treatment of mutagen like UV and repeated screening. Mutants showed significantly higher productivity than the corresponding wild-type strains.

References

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