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Higher anti-liver fibrosis effect of *Cordyceps militaris* fermented product cultured with deep ocean water via inhibiting proinflammatory factors and fibrosis related factors expressions

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Deep ocean water (DOW) has been shown to enhance the functional components of fungi, resulting in increased health benefits. Therefore, using DOW for culturing fungi can enhance the cordycepin and adenosine of *Cordyceps militaris* and its protective effects on the liver. In this study, the anti-liver fibrosis effects and mechanisms of ultrapure water-cultured CM (UCM), DOW-cultured CM (DCM), synthetic water-cultured CM, DOW, cordycepin and adenosine were compared in the liver fibrosis mice induced by intraperitoneal injections of thioacetamide (TAA). The results indicated that DCM exhibited superior performance in reducing liver collagen accumulation, mitigating liver injuries, inhibiting proinflammatory factors and fibrosis-related factors (TGF- β 1, Smad2/3, α -SMA, COL1A1) expressions compared with UCM. DOW, cordycepin and adenosine also performed anti-liver fibrosis effect. Therefore, because DCM is rich in DOW and functional components, it can achieve anti-liver fibrosis effects through multiple pathways. These ameliorative effects are considerably superior to those of UCM.

Biography

Chun-Lin Lee has completed his PhD from National Taiwan University. He is the Chairman and Professor of Department of Life Science in Taitung University. His major research is the application of deep ocean water for increasing the fermentation efficiency and health function of functional fungi. He has published more than 35 papers and 10 international patents with the studies of biotechnology, deep ocean water application and functional food in reputed journals.

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