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The pre-clinical studies of microalgae extract on application of infectious disease

Chun-Wei Cheh
Far East Bio-Tec Co., Ltd., Taiwan

The extracts of *Spirulina platensis* were evidenced to have antiviral activity on HIV or EV71 in previous studies, therefore we examined the anti-influenza efficacy of cold water extract from *Spirulina platensis*, FE-L-APO, the API of *Apomivir*® for an alternative drug development since influenza viruses are highly mutant to induce resistance to prevalence chemical compounds. The plaque forming reduction assay reveal the 1.5 mg/ml of FE-L-APO will each reduce the 50 to 70% of plaque forming various influenza virus strains. The time-of-addition assay and HAI (hemagglutination inhibition assay) test indicate the water extract of *Spirulina platensis* significantly deactivated influenza virus at early stage of viral replication cycle *in vitro. In vivo* study, administering 10 to 100 mg/kg/day of the *Spirulina platensis* extract to Influenza A and B infected mice twice daily for five days can improve the survival rates, severe weight loss (>30%), and pre-administrating 100 mg/kg/day of the extracts to influenza virus infected mice for 7 days also showed the prophylactic efficacy on weight loss. The water extract of *Spirulina platensis*, FE-L-APO can deactivate broad spectrum of influenza viruses *in vitro*, and can alleviate the level of severe weight loss and improve survival rates of influenza virus infected mice. For long used history and safety of *Spirulina platensis*, the *Spirulina* extract might be a good drug candidate for preventing and improving the severe pathogenicity of influenza virus infection.

Biography

Chun-Wei Cheh completed his Master of Science degree from Carnegie Mellon University and has worked at University of Pittsburgh Medical Center (UPMC) for a year as a Cancer Immunology Researcher. He is now working as the Special Assistant to President at FEBICO, a company specializes in the research and development of new drug extracted from microalgae.

Notes: