ANALGESIC AND ANTI-INFLAMMATORY ACTIVITIES OF AN ETHANOL EXTRACT OF *DUNALIELLA SALINA* TEOD. (CHLOROPHYCEAE)

PEI-YU CHOU¹*, GUAN-JHONG HUANG²*, HSU-CHEN CHENG¹, CHIEH-HSI WU³, YI-CHUNG CHIEN¹, JWO-SHENG CHEN⁴, MING-HSING HUANG⁵, KAI-JENG HSU³ and MING-JYH SHEU^{3,6}

¹Department of Life Science, National Chung Hsing University Taichung 402, Taiwan

²Institute of Chinese Pharmaceutical Sciences, College of Pharmacy China Medical University Taichug 404 Taiwan

> ³School of Pharmacy, College of Pharmacy China Medical University Taichung 404, Taiwan

⁴Department of Sports Medicine, China Medical University Taichung 404, Taiwan

⁵Department of Cosmetic Science Chia Nan University of Pharmacy and Science 60, Erh-Jen Road, Sec.1, Jen-Te, Tainan, 707 Taiwan

Accepted for Publication May 23, 2009

ABSTRACT

This study investigated the analgesic and anti-inflammatory effects of an ethanol extract of Dunaliella salina Teod. (Chlorophyceae) (EDS) in Imprinting Control Region mice. Standard all-trans- β -carotene and the amount of all-trans- β -carotene in an EDS were analyzed by high-performance liquid chromatography (HPLC). In HPLC analysis, the fingerprint chromatogram of EDS was established. Both all-trans- β -carotene and EDS showed similar peaks at the retention time of 24 min. This implied that EDS contained the active ingredient all-trans- β -carotene.

Treatment of animals with EDS significantly inhibited the numbers of acetic acid-induced writhing responses at doses of 0.5 g/kg (P < 0.01),

Journal of Food Biochemistry **34** (2010) 1288–1302. © 2010 Wiley Periodicals, Inc.

^{*} Both authors equally contributed this paper.

⁶ Corresponding author. TEL: +011-886-4-2205-3366-5158; FAX: +011-886-4-2207-3709; EMAIL: hsumj@mail.cmu.edu.tw