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## Effects of *Toona sinensis* extracts on oxidative-stress related-factors in sepsis based on RAW264.7 cell line induced by lipopolysaccharide

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**Background:** Sepsis is a leading cause of mortality in intensive care units. Previous studies have revealed sepsis is accompanied with increasing oxidative stress. *Toona sinensis* (TS), a Chinese medicine, possess a variety of biological activities, including playing as an antioxidant. Therefore, TS extract was selected to investigate its influence on those biological effects of sepsis.

**Methods:** RAW 264.7 cells were pre-treated with various concentrations of TS extracts with or without lipopolysaccharide stimulation. Then the cell levels of superoxide anion, MDA, NO<sub>2</sub>, NO<sub>3</sub>, NO, GSH, and GSSG, and the activities of GPx, GRx and SOD were evaluated. Additionally, the protein expressions of iNOS and GSTPi were also assayed.

**Results:** Under the lipopolysaccharide exposure, pre-treating with TS extracts, compared to none, could decrease the O<sub>2</sub> generations, and MDA levels. The levels of NO<sub>2</sub>, NO<sub>3</sub>, NO, GSSG, activities of GPx, GRx, SOD and the expressions of iNOS were also decreased.

**Conclusion:** This study showed that the pre-supplementation of TS extracts could prevent cell damage from lipopolysaccharide exposure through decreasing the oxidative stress by the RAW264.7 sepsis model.

### Biography

Szu-Ying Wu has completed his undergraduate studies at Chang Gung University and earned his medical degree in 2012. He is a CAM resident at Kaohsiung Chang Gung Memorial Hospital with a major in acupuncture and traumatology. He is the Vice Secretary-General of Taiwan Association of Chinese Medicine and Pharmacy Quality. His research topics focus on low level laser acupuncture and treatment of sleep disorders. Recent clinical interest of Ricky is about sports medicine.

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