

## Protective effect of *Sarcandra glabra* extract against influenza virus-induced pneumonia in restraint-stressed mice

Rong-Rong He, Hui-Juan Cao, Rui-Rong Tan, Yuan-Ao Hu, Yi-Fang Li and Kurihara Hiroshi  
Jinan University, China

*Sarcandra glabra* is widely used in Traditional Chinese Medicine (TCM) as a type of “antipyretic-detoxicate drugs”. It is used frequently as treatment of anti-cancer, anti-inflammation, anti-infectious, etc. in folk medicine. This study was designed to investigate the protective effect of extract from *Sarcandra glabra* (SGE), with chemical composition clearly showed by HPLC fingerprint as quality control, on influenza virus-induced pneumonia in mice loaded with restraint stress. Mice were infected with influenza virus 3 days after restraint, SGE (250 and 500 mg/kg/day) was orally administered to mice 1 day before restraint for 10 consecutive days. Mice were monitored daily for morbidity (time to sickness), symptom severity, and mortality (time to death) for 21 days. Histopathologic changes and inflammatory parameters of lung were determined. Results demonstrated that oral administration of SGE could reduce the morbidity and the mortality of virus infected mice loaded with restraint stress, and significantly prolonged living time of mice. Histopathological study of the lungs in pneumonia mice found that pretreatment with SGE significantly ameliorated lung injury induced by influenza virus infection. The results further showed that it had significant effects on decreasing viral load and inhibiting iNOs, IL-1 $\alpha$  and TNF- $\alpha$  mRNA levels (the production inflammatory markers) through down-regulation of NF- $\kappa$ B protein expression in the lung tissue of influenza infected restraint stressed-mice. Our study indicated SGE exhibited protective effects against influenza and its subsequent viral pneumonia in restraint-stressed mice. The mechanism may be related with the inhibition of virus replication and the decrease of virus-induced inflammatory cytokines levels.

### Biography

Rong-Rong He has completed her Ph.D at the age of 26 years from Shenyang Pharmaceutical University and postdoctoral studies from Sun Yat-Sun University. She is the associate professor of Jinan University in Guangzhou, China. She has published more than 60 papers in reputed journals.

Rongronghe66@163.com