

3<sup>rd</sup> World Congress on

# NATURAL PRODUCTS CHEMISTRY AND RESEARCH & 12<sup>th</sup> WORLD PHARMA CONGRESS

October 16-18, 2017 Budapest, Hungary

## **A new 1,3-dihydroxy-2-methyl-11H-benzofuro[2,3-b]chromen-11-one isolated from *Abronia nana*, inhibits High mobility group box-1 (HMGB1)-induced septic responses**

**Kyung-Sik Song, Eun-Ju Yang, Doohyun Lee, Wonhwa Lee, Jong-Sup Bae and Taeho Lee**  
Seoul National University, Republic of Korea

Despite intensive investigation of molecular mechanisms underlying the pathogenesis of sepsis, many aspects of sepsis remain unresolved, which hamper the development of appropriate therapeutics. *Abronia nana* is an ornamental plant belonging to Nyctaginaceae, its pharmacological potential, especially against septic responses, has not been established well. In the present study, we isolated a rarely new compound 1,3-dihydroxy-2-methyl-11H-benzofuro[2,3-b]chromen-11-one (LDH1609) from *Abronia nana*. LDH1609 was investigated for its potential activities against HMGB1-mediated septic responses. The data showed that LDH1609 effectively inhibited the Lipopolysaccharide (LPS)-induced release of High Mobility Group Box-1 (HMGB1). The HMGB1-mediated septic responses were also significantly suppressed by LDH1609, including hyperpermeability, leukocyte adhesion and migration, and cell adhesion molecule expression. In addition, LDH1609 inhibited the HMGB1-mediated production of Tumor Necrosis Factor- $\alpha$  (TNF- $\alpha$ ) and Interleukin (IL)-6, the activation of nuclear factor- $\kappa$ B (NF- $\kappa$ B), and Extracellular Signal-Regulated Kinase (ERK) 1 and ERK2. These results demonstrate that LDH1609 might be applied to develop the potential therapeutic agents for various severe vascular inflammatory diseases through the inhibition of the HMGB1 signaling pathway.

### **Biography**

Kyung-Sik Song is a professor at Seoul National University, Republic of Korea. He has his expertise in Medicinal Chemistry. He has published more than 50 papers in peer reviewed international journals.

kssong@knu.ac.kr

### **Notes:**