PP-28

Design and Synthesis of Benzoyl Andrographolide Derivatives as Potential Dual-function Agents for Anti-influenza Therapy

Chin-Yi Ko (柯勤益), Wen-Hsin Huang (黃文鑫) and An-Rong Lee (李安榮)

National Defense Medical Center, Taipei, Taiwan

The World Health Organization (WHO) recommended the use of neuraminidase inhibitors (NAIs) oseltamivir and zanamivir, as the guideline for anti-influenza therapy. However, more than 200 cases of oseltamivir-resistant virus infection have been reported worldwide. The mechanism of drug resistance due to the rapid evolution of virus and the functional balance between neuraminidase and haemagglutinin, therefore, the development of multi-mechanism-based drugs is an effective strategy to combat the resistant strain-infection.

According to 'airplane model', I used two benzoic acid derivatives, **1** and **9**, as starting materials for synthesizing novel aromatic NAIs. Besides, andrographolide, the active component of *A. paniculata* was reported that it has potent haemagglutinin inhibitory activity. Furthermore, the goal of incorporation of benzoic acid derivatives and andrographolide is in progress to synthesize a series of anti-influenza agents.

The ability of the synthetic compounds to interfere with the plaque formation by human influenza viruses was examined on the basis of the maximum non-toxic concentration of the test compounds. Some of our products showed potent activity, in vitro, against anti-H1N1 viruses. Further investigations on the mechanisms of action are in progress.