both physiological and stimulated mucin release from airway epithelial cells without significant
cytotoxicity and PLL lost its activity under the range of 14mer. This finding suggests that polymer of
basic amino acid like PLL might function as a regulator for hypersecretion of mucus manifested in
various respiratory diseases.

[PA1-14] [ 10/18/2002 (Fri) 09:30 – 12:30 / Hall C ]

A newly antiarrhythmic drug CW–2202 is ideal in treating atrial fibrillation
Eun JaeSoon0, Kim DaeKeun, Chae SooWan, Kwak YongGeun

College of Pharmacy, Woosuk University, +Dept. of Pharmacology, Chonbuk National University
Medical School

A number of patients suffering from atrial fibrillation are increasing and many cardiologists are trying
to develop the ideal antiarrhythmic drugs for atrial fibrillation. Previously, we found out that CW–2202,
a furanocoumarin derivative inhibited the hKv1.5 current expressing predominantly in human atrium
without affecting the HERG current expressing mainly in ventricle. From those results, we proposed
that CW–2202 would be one of the leading compound in developing the ideal antiarrhythmic drugs for
atrial fibrillation. In this study, we examined the effects of CW–2202 on cardiac action potentials as well
as K+ currents expressed in Ltk–cells using conventional microelectrode technique and patch
clamp method. CW–2202 reduced the tail current amplitude recorded at –50 mV after 250 ms
depolarizing pulses to +60 mV, and slowed the deactivation time course resulting in a 'crossover'
phenomenon when the tail currents recorded under control conditions and in the presence of CW–
2202 were superimposed. These results indicate that CW–2202 primarily block activated hKv1.5
channels in a time–, voltage–, frequency– and concentration–dependent manner. Additionally, CW–
2202 prolonged the action potential durations of atrial myocytes and Purkinje fibers in a dose–
dependent manner. These results strongly suggest that CW–2202 could be an ideal antiarrhythmic
drug specific for atrial fibrillation.

[PA1-15] [ 10/18/2002 (Fri) 09:30 – 12:30 / Hall C ]

Lee Eunjin0, Kim Youngleeum, Lee Hyun Jung, Suh Myung Eun, Lee Sang Kook

College of Pharmacy, Ewha Womans University

A synthetic naphthoquinone alkaloid, 2–amino–3–ethoxycarbonyl–1–methyl pyrrolo (3,2–b) naphtho–
4,9–dione (compound 1), showed a potent cytotoxicity in a panel of cancer cell lines with an IC50
ranged from 0.1 to 0.3 microgram/mL. Prompted by a potent cytotoxic activity, the mechanism action
study was performed with cultured A549 of human lung cancer cells. Flow cytometric analysis showed
G2/M cell cycle arrest and microscopic investigation was also characterized with apoptotic
morphological features. The apoptotic cell death was induced in a concentration– and time–
dependent manners. In addition, Compound 1 increased p53 expression level in A549 cells. But the
bcl–2 protein level was not much affected. Our results demonstrate that compound 1 may be a good
candidate for additional evaluation as a potential therapeutic agent for human lung cancer and
possibly other types of cancer. (This work was supported in part by Korea research Foundation Grant,

[PA1-16] [ 10/18/2002 (Fri) 09:30 – 12:30 / Hall C ]