

could be formulated. However, it should be noted that dissolution rate of poorly water-soluble drugs were highly dependent on drug properties, solubilizing compositions and polymeric carriers. Supported by ministry of health & welfare (02-PJ1-PG11-VN02-SV01-0002).

[PE1-13] [ 10/18/2002 (Fri) 13:30 - 16:30 / Hall C ]

#### A study on the Physico-chemical Properties of CB-ph, a New Anti-cancer drug

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Purpose To investigate the physico-chemical properties of CB-ph[2-benzoyloxycinnamaldehyde], an anticancer drug obtained from *Cinnamomum cassia* using methylenechloride, and its stability in various aqueous solutions. Results CB-ph was rarely soluble in water but soluble in methanol and very soluble in ether. Kinetic salt effect on degradation of CB-ph in buffer solutions at pH 4.0 and 60°C showed a linear relationship having a positive slope that means reactions between hydronium ions and protonated substrates. By plotting the logarithm of the degradation rate constants of CB-ph as a function of temperature(40-80°C) in aqueous solutions vs. 1/temperature was obtained a linear relationship and the  $t_{90}$  of CB-ph was calculated from Arrhenius plot. From the pH-rate profile, it was found that CB-ph was most stable in pH range of 2 - 4 at 60°C. The weight change of CB-ph in desiccator storage for 5 weeks under various relative humidity(21 to 88%) were not found. Conclusions Melting point of CB-ph was 82.5°C. The solubilities of CB-ph were 0.4ug/mL in water, 18mg/mL in methanol, and 49mg/mL in ether. The pH-rate profile of CB-ph at 60°C showed a general acid-base catalysis reaction in the range of pH 1-9. The degradation rate constants(K) of CB-ph at 60°C and pH 1, 4, 5 and 9 were 0.0041, 0.0004, 0.0019 and 1.5828 h<sup>-1</sup>, respectively.  $t_{90}$  of CB-ph in distilled water at 20°C was approximately 170 days. The degradation of CB-ph in buffer solutions at pH 4.0 and 60°C may be affected through both of a primary and a secondary salt effect.

[PE1-14] [ 10/18/2002 (Fri) 13:30 - 16:30 / Hall C ]

#### Pharmacokinetics of New Solubilizer in Intravenous Micelle Formulation of Paclitaxel in Mice

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Paclitaxel is an antitumor agent with poor water solubility and its pharmacokinetics are nonlinear. Cremophor EL, a surfactant used in the formulation of paclitaxel, may cause adverse effects. New solubilizer(Aceporol 460) was developed to reduce side effects of Cremophor EL and to increase the effect of drug as surfactant used in the intravenous micelle formulation of anticancer drug paclitaxel. We studied easy, rapid quantitative determination of Aceporol 460 in mouse plasma samples, which was achieved by complexation of the compound with the Coomassie brilliant blue G-250 dye in protein-free extracts. The binding of the dye to Aceporol 460 caused a shift of the absorption maximum in 400-700nm. Pharmacokinetics of New solubilizer were studied by this method. Mice were treated with Cremophor EL, Aceporol 460, each at dose levels of 0.83, 0.625, 0.417mL/kg(29.3, 22.1, 14.7mL/m<sup>2</sup>). Mouse samples were collected up to 90 minute after injection. AUCs(0-90) of Aceporol 460 were 85.46 $\mu$  Lmin/mL(at 0.417mL/kg), 194.83 $\mu$  Lmin/mL(at 0.625mL/kg), 252.99 $\mu$  Lmin/mL(at 0.83mL/kg).

[PE1-15] [ 10/18/2002 (Fri) 13:30 - 16:30 / Hall C ]

#### Tissue Distribution of Novel Polymeric Micellar Paclitaxel in Mice

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