Comparative bioavailability of novel antitumor platinum (IV) complexes, K101, K102, K103, and K104 in rats

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The pharmacokinetics and bioavailability of novel antitumor platinum (IV) complexes were investigated after intravenous and oral administration of the complexes to rats. I.V. doses of 5 mg/kg (k101 and K102) and 10 mg/kg (K103 and K104) and oral doses of 30 mg/kg (K101, K102, K104) and 150 mg/kg (K103) were given separately to male rats. Total platinum concentrations in plasma and urine were determined by flameless atomic absorption spectrometry. After i.v. administration, AUC values of K101, K102, K103, and K104 were 3023, 2861, 2530 and 1514 ug×min/ml, respectively. Renal clearances of K101, K102, K103, and K104 were 0.51, 0.75, 3.39, 4.52 ml/min/kg, respectively. K101 and K102 had 2.2- to 3.6-fold larger AUC and 4.5- to 9-fold slower renal clearances compared with K103 and K104. After oral administration, Cmax values of K101 and K104 were 6.7- to 10-fold higher than those of K102 and K103. The absolute bioavailability of K101, K102, K103, and K104 were 20.11%, 2.14%, 3.69%, and 16.43%, respectively. The oral bioavailability of K101 and K104 were 4.5- to 10-fold higher than those of K102 and K103.

Poster Presentations - Field E3. Physical Pharmacy

[PE3-1] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Oligosaccharide analyses on the glycoproteins using HPAE/PAD and HPLC/fluorescence detector

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The analysis of protein glycosylation is an important part of glycoprotein characterization, especially because the sialylation or desialylation in oligosaccharides often causes dramatic changes in the function of glycoproteins.In the present study, we used two methods to structurally analyze sialylated oligosaccharides: high-performance anion-exchange chromatography with pulsed amperometric detection, and fluorescence detection using a conventional high-performance liquid chromatography system. As a result, oligosaccharides with no derivatization and PA-oligosaccharides were successfully detected, and exhibited different retention times. We are currently using these methods to analyze the structure of sialylated oligosaccharides from glycoproteins such as fetuin and bovine submaxillary mucin, and from diseased glycoproteins.

[PE3-2] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Detection of carbohydrate on the glycoproteins using enzyme-linked lectin assay

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An enzyme-linked lectin assay(ELLA) was developed for the characterization of glycoproteins such as fetuin, asialofetuin, ribonuclease B, bovine submaxillary mucin, and thyroglobulin. Peroxidase-labeled lectins were obtained from wheat-germ agglutinin, *Bandeiraea simplicifolia* lectin, *Ricinus communis* agglutinin, concanavalin A, and soybean agglutinin, since they specifically bind to the saccharide residues