mode using the electrospray ionization source maintained at 300℃. Nitrogen was used as the nebulizer, curtain, collision and auxiliary gas. Ambroxol and domperidone were detected by MS/MS using multiple reaction monitoring(MRM). Ambroxol gave a parent molecule([M+H]+) at m/z 379 and a corresponding product ion of m/z 264. Detection of ambroxol was accurate and precise, with a limit of detection of 0.01ng/mL in plasma. The calibration curve for ambroxol in human plasma was linear in a concentration range of 0.1ng/mL - 200ng/mL for plasma. This method has been successfully applied to determined the concentration of ambroxol in human plasma from pharmacokinetic and relative studies.

[PD4-6] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Studies on development of analytical methods for the official compendium drugs. - Cholic acid and its derivatives

Kim MiJeong°, Choi DonWoong, Kim HeeSung, Chang SooHyun, Jung KiSook, Choi JeongSun, Noh JaeWon, Lee YoungMoon, Chang SeungYeup

식품의약품안전청 의약품평가부 약품화학과, 충북대학교 약학대학

A high performance liquid chromatography method has been developed and validated for the determination of cholic acid and its derivatives such as dehydrocholic acid (DHCA), ursodesoxycholic acid (UDCA), desoxycholic acid (DOCA), chenodeoxycholic acid (CDCA) and lithocholic acid (LCA) in pharmaceuticals for quality control purpose. The linear gradient elution of 200 mM phosphate buffer (pH 3.0) and acetonotrile was available for separating 6 cholic acid derivatives using octadesylsilan silica column at 45℃. UV detection was set at 210nm. Selectivity, linearity, range, repeatability, precision and acuuracy showed good result. The detection limit of cholic acid was 12.3 ㎍/mL, DHCA 0.03 ㎍/mL, UDCA 39.8 ㎍/mL, DOCA 31.2 ㎍/mL, CDCA35.4 ㎍/mL and LCA 46.2 ㎍/mL. This new developed method would be applicable to quality control for cholic acid derivatives in pharmaceuticals.

[PD4-7] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Chiral recognition of 18-crown-6 tetracarboxylic acid as a chiral selector determined by NMR spectroscopy

Bang Eunjung, Lee Wonjae°, Baek CheeSun, Lee Weontae

1 Korea Basic Science Institute, Seoul Branch, 2 College of Pharmacy, Chosun University, Kwangju, 3 Department of Biochemistry, Yonsei University, Seoul

We recently reported that a new HPLC chiral stationary phase prepared by bonding (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid (18-C-6-TA) has been successfully employed in resolving various racemic compounds containing a primary amino functional group. Related to these results, in this study we performed detailed NMR studies for each enantiomer of phenylglycine and phenylglycine methyl ester with 18-C-6-TA to investigate the chiral recognition mechanism of the diastereomeric complexes in solution state. These NMR results were consistent with the chromatographic data obtained on chiral HPLC.

[PD4-8] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Quantitative analysis of Letosteine in film-coated tablet by HPLC

Kim Jong Heon°, Weon Kwon Yeon

Handok pharmaceuticals Co. Ltd.

Letosteine(Viscotiol), a cyclic cysteine derivative, is used in treatment of bronchitis.

Handok Pharmaeuticals, Co. Ltd have manufactured Letozol film-coated tablet with letosteine as a active ingredient. We have coated this product using enteric coating materials for taste and smell masking.

Letosteine is degraded in aqueous solution, its content is tested and calculated by non-aqueous titration. Analysis by HPLC is used popularly for the accuracy and precision. Especially, at low concentration, the analysis by HPLC is mor accurate than non-aqueous titration. So, we studied the analysis of Letosteine by HPLC. And the stability in test solution was carried out during 18hours.

The Letosteine was chromatographed by using C18 column, the mobile phase (sodium acetate anhydrous 2.72g, Acetic acid glacial 30ml and acetonitrile 100ml up to 1000ml with demineralized water) and UV detector (254nm) at a flow rate 0.6ml/min.

The calibration plot obtained using UV detector was linear over the range of 20 %- 120% with correlation coefficient of 0.999 (log-log scale). Reproducibility studies gave relative standard deviations of about 1 %. And Letosteine in test solution is stable within 18hours.

These results showed that analysis by HPLC is useful to assay the content of Letosteine.

[PD4-9] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Chiral purity test of (R)-(-)-salbutamol by capillary electrophoresis using sulfated-β-cyclodextrin as a chiral selector

Kim KyeongHo, Jeun EunYoung°, Jin ByungJo, Kang JongSeong, Youm JeongRok

College of Pharmacy, Kangwon National University, College of Pharmacy, Chungnam National University, College of Pharmacy, Chung Ang University

Chiral separation of salbutamol was investigated by capillary electrophoresis employing a sulfated-β-cyclodextrin (sulfated-β-CD). The effects of the concentration of sulfated-β-CD added to the background electrolyte and of the pH of the buffer on the effective mobility and resolution of the studied compounds were examined. Very good resolution was achieved.
Two methods for the optical purity testing of (R)-(-)-salbutamol were developed, namely capillary electrophoresis using sulfated-β-CD and high-performance liquid chromatography using chiral stationary phase. Validation data such as linearity, recovery, detection limit, and precision of the two methods are also presented. There was generally good agreement between the HPLC and CE results. These methods were found to be applicable as a practical quality control method for the enantiomeric purity determination of (R)-(-)-salbutamol.

[PD4-10] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Simultaneous enantioseparation of isoproterenol and etilefrine using derivatization by gas chromatography-mass spectrometry (GCMS)

Kim SeungGull, Joe SeHyoung°, Kim MooSung, Lim HeeJung

Central Research Labs., ChoongWae Pharma Coporation

Simultaneous enantioseparation of isoproterenol and etilefrine using derivatization by gas chromatography-mass spectrometry (GCMS)

The art of enantioseparation has seen a most dramatic development and progress over the last two decades, maturing from a speciality field of a few experts to an area of major scientific and economic interest. In some cases of chiral drugs, One of the enantiomers has side effects and even toxic effects biologically. Mostly, Chiral HPLC has been used for isoproterenol and etilefrine to enantioseparate and determinate.
In this experiment, for simultaneous enantoseparation of isoproterenol and etilefrine, Derivatization with Trimethylchlorosilane (TMCS) and S-(-)-Trifluoroacetyl-prolyl chloride (TPC) were carried out subsequently