1. Paraben mixtures (methyl paraben and propyl paraben) were used in most cases. (90 a 159 samples)
2. In case of methyl and propyl paraben being used, capsules showed a higher concentration than any other shape of drugs.
3. The sum of paraben (methyl paraben and propyl paraben) concentration was 0.06~0.28% in creams, 0.03~0.11% in syrups, 0.111% in suppositories 0.02~0.054% in ophthalmics solutions, 0.051~0.15% injections, 0.15~5.32mg/cap in capsules and 0.08~0.12% in solutions.

[PD4-8] [10/19/2000 (Thr) 15:00 - 16:00 / [Hall B]]

Chiral separations of β-blockers by HPLC using (S)-(+)-TBMB-COOH

Kim JH°, Kim HJ, Ko MY, Jeon EY, Seo SH, Kim KH

College of Pharmacy, Kangwon National University

The fluorescent chiral derivatizing agent, (S)-(+)-TBMB carboxylic acid was applied for highly sensitive HPLC analysis of enantiomeric β-blockers. Racemic β-bolckers were derivatized with (S)-TBMB-COCl in pyridine-CH3CN solution and subjected to normal phase silica column HPLC for the separations of the derived diastereomeric di-(S)-TBMB-carboxylated β-blocker derivatives.
Optically pure (S)-TBMB-COCl was synthesized and its CH3CN solution was successfully used for the determination of the optical purities of β-blockers as their diastereomeric di-(S)-TBMB derivatives without any racemization. Optimum reaction conditions, reaction time, temperature and the concentration of (S)-TBMB-COCl, and HPLC conditions were examined using a normal phase silica column(4.6×250mm). The eluents were monitored by fluorescent detection at Ex. 310nm and Em. 380nm and the detection limits of (S)-TBMB-derivatized β-blockers were 0.1 pmole on column.
In this study, we have successfully demonstrated for the chiral separations of various β-blockers by normal phase HPLC using fluorescent chiral derivatization agent, (S)-(+)-TBMB-COOH, and the extension of the present method is underway.

[PD4-9] [10/19/2000 (Thr) 15:00 - 16:00 / [Hall B]]

Studies on the Chiral Separation Mechanism of Amine Moiety Drugs using chiral CBH column

Kong HS, Kim EJ, Choi SO°, Jang JY, Jung HY, Park HY* and Jang SJ

Division of Antibiotics, Department of Drug Evaluation, Korea Food and Drug Administration *Ewha Womans University

Enantioseparation of chiral drugs are sometimes laborious and time-consuming study and the chiral stationary phase is very expensive. Therefore, if the prediction of chiral separation of the drug is possible by their 3-dimensional molecular structure, it is certain that will be a very useful tool in studing the chiral separation of drugs and separation mechanism of chiral stationary phases. Especially, all beta blockers have chiral center in their molecule and most of them are marketed as racemic mixtures. It has been well documented that the single enantiomers of beta blocking agents, as well as several other drugs, differ largely in their pharmacodynamic and pharmacokinetic profiles. (S)-propranolol is more than 100 times potent in blocking beta receptors than the corresponding (R)-enantiomer. In this study, eleven of the most popular beta-blockers and some other drugs which have very similar structure with amine moieties were chosen as model drugs.
Firstly, in order to study the prediction of the chiral separation of some amine moiety drugs, influence on enantioselective retention of several mobile phase parameters, e. g., types of organic modifier, i.e., 2-propanol, acetonitrile, concentration of organic modifier, mobile phase buffer pH,