[PD4-18] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Enantioselective Determination of Flurbiprofen in Human Urine using column switching-HPLC

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We separated flurbiprofen that is racemic compound using RU-2 column by column - switching HPLC method and improved greatly detection limit (LOD) in human urine. Moreover, it is not pretreatment of sample. We measured specific rotation using polarimeter and confirmed d - form and l - form. This method was showed linearity between 0.23~110.8μg/mL of both isomers. Result, LOD was l-form : 0.023μg/mL, d-form : 0.005μg/mL and C.V value in Inter-day and intraday of precision showed 1.84% low.

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

In vitro metabolism of a novel phosphodiesterase-5 inhibitor DA-8159 in rat liver preparations using LC/MS

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The in vitro metabolism of a new erectogenic, DA-8159 has been studied by LC with UV detection and on-line LC-electrospray mass spectrometry using rat hepatic microsomal incubation and rat liver perfusion. Both rat liver microsomal incubation of DA-8159 in the presence of NADPH and single-pass liver perfusion of DA-8159 resulted in the formation of three metabolites (M1-3). M1 was tentatively identified as hydroxy-DA-8159. M2 and M3 were identified as N-demethyl-DA-8159 and 5-(2-propyloxy-5-aminosulphonyl phenyl)-1-methyl-3-propyl-1,6-dihydro-7H-pyrazolo(4,3-d)pyrimidin-7-one (DA-8164), respectively, on the basis of LC-MS/MS analysis with authentic standards. The pathways of DA-8159 metabolism were hydroxylation, N-hydrolysis and N-demethylation.

[PD4-20] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

In vitro metabolic stability of sildenafil derivatives and identification of their metabolites by liquid chromatography/ion trap mass spectrometry

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It was examined that in vitro metabolic stability of sildenafil derivatives and detection of their metabolites by high performance liquid chromatography (HPLC) coupled with ion trap mass spectrometry (MS). The samples from incubation with human and rat liver microsomes were analyzed by HPLC/electrospray (ESI) ion trap MS in full-scan mode. The metabolic stability of the drugs was determined by comparing their signals after incubation for 0 and 30 min, respectively. In addition, the technique allowed simultaneous detection of metabolites formed during the same incubation without having to reanalyze the samples. The metabolites were first characterized by nominal mass measurement of the corresponding protonated molecules. Subsequent multi-stage tandem spectrometry (MSn) on the ion trap instrument allowed confirmation of the detected metabolites.

[PD4-21] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Chiral Separation of Aromatic Amino Acids by Capillary Electrophoresis using Successive

Multiple Ionic-Polymer Coated Capillary

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Recently, particular attention has been paid to the chiral separation of amino acid enantiomers because of their different biological activities. Among the various amino acids, L-DOPA and 5-hydroxy-L-tryptophan are used to treat Parkinson's disease, a neurological disorder, and mental disorders, respectively. Hence, the high optical purity of aromatic amino acids is critical because of their important functions in the central nervous system. In this study, a successive multiple ionic-polymer(SMIL) coated capillary was tested for its precision in migration times in the enantiomeric separation by chiral capillary electrophoresis employing highly sulfated cyclodextrins as the chiral selectors.

[PD4-22] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Achiral and Chiral Determination of Yatein from Juniperus and Some Related Species by capillary electrophoresis

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A capillary zone electrophoresis method was developed for the achiral and chiral determination of yatein from Juniperus and some related species. The achiral separation was done by using 100 mM sodium borate buffer (pH 10.5) containing 30% (v/v) methanol, from which we set up the chiral method by simply adding several chiral selectors. As a result, the CM-b-CD was selected with the concentration of 10 mM. Finally, we obtained the information about the content difference of yatein among the species and it could be a potent quality control method of the species.

[PD4-23] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Capillary Electrophoretic Determination of PEGylation Sites of Mono-PEGylated Human Parathyroid Hormone (1-34)

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A capillary electrophoretic method was developed for the determination of the PEGylation sites and positional isomer contents of mono-PEGylated human parathyroid hormone (1-34) (hPTH1-34). Two different types of activated PEG, monomethoxy PEG-succinimidyl propionate (SPA-MPEG) and MPEG-propionaldehyde (ALD-MPEG), were employed to conjugate with hPTH1-34. Each mono-PEGylated hPTH1-34 molecule was purified by anion-exchange and size-exclusion chromatography. The purified fractions were digested with *Endoproteinase* Lys-C and were directly analyzed by capillary zone electrophoresis. Resistance to Lys C digestion on the PEGylation sites resulted in different patterns of CE electropherograms for the Lys C-digested mono-PEG-hPTH1-34, and the PEGylation sites were assigned accordingly. The content of positional isomers of mono-PEG-hPTH1-34 was also determined by quantifying PEGylated fragments in the CE electropherograms. The PEGylation sites were also confirmed directly by determining the molecular masses of Lys-C digested mono-PEG- hPTH1-34 by the MALDI-TOF mass spectrometry. This method may have a potential for characterizing other PEGylated therapeutic peptides.

[PD4-24] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]