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]