[PD4-14] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Configurational Analysis of Organic Acids and Amino Acids in Beakgangjam and Dongchunghacho by Achiral Gas Chromatography

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Recently, particular attention has been paid to the absolute configurations of naturally occurring optically active organic acids and amino acids because of their different biological activities. In this study, we determined absolute configuration of organic acids and amino acids present in Beakgangjam and Dongchunghacho as diastereomeric derivatives by achiral gas chromatography (GC). After their extraction, amino acids were converted into diastereomeric N(O,S)-ethoxycarbonylated (S)-(+)-3-methyl-2-butyl esters and the organic acids into diastereomeric O-trifluoroacetylated (S)-(+)-3-methyl-2-butyl esters, followed by GC analysis on achiral DB-5 and DB-17 dual-capillary columns. The absolute configurations of all amino acids and organic acids from Beakgangjam and Dongchunghacho were positively determined to be in their 100% L-form.

[PD4-15] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Determination of the Absolute Configurations of Urinary Chiral Acids from Pateints Suffering from Short & Long Chain 3-Hydroxy Acyl-CoA Dehydrogenase Deficiency by Achiral Gas Chromatography

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Chiral acids occurring in metabolic pathways are known as important biochemical indicators of specific enzyme deficiencies in inborn errors of metabolism and their accurate chiral determination is thus of utmost importance for the correct diagnosis. After extraction from urine samples of patients suffering from short chain 3-hydroxy acyl-CoA dehydrogenase (SCHAD) & long chain 3-hydroxy acyl-CoA dehydrogenase (LCHAD) deficiency, chiral acids such as lactic, 2-hydroxybutyric and 3-hydroxybutyric acids were converted to diastereomeric O-trifluoroacetylated (1S, 2R, 5S)-(-)-menthyl esters for the direct GC analysis on achiral dual-capillary column system. In cases of SCHAD & LCHAD, the absolute configurations of lactic and 2-hydroxybutyric acids were positively determined to be in their S-form, while 3-hydroxybutyric acid was in R configuration.

[PD4-16] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Collaborative study for the establishment of somatropin reference standard of KFDA

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The complexity and variability of both the biologicals and the bioassays used to test them lead to the use of reference standard. It is very important for the national regulatory authority to establish