Seoul Metropolitan Government Research Institute of public Health and Environment

The stability of cefaclor monohydrate syrup was studied under various temperature and time differences. Refrigerated condition(4℃), room temperature and accelerated condition(40℃) were investigated for temperature differences and 4h., 8h., 12h., 24h., 2 days to 20 days(every day) were investigated for time differences.
The contents of cefaclor monohydrate was determined for 9 commercial dried cefaclor-syrup by High Performance Liquid Chromatography with Hypersil ODS column and triethylamine/glacial acetic acid/acetonitrile/D.W = 5/20/25/875 mobile phase. The detection was performed at 254nm.
The calibration curves showed a good linearities having r value of 0.99935 and detection limit was 0.953ppm.
At 40℃, the rate of degradation was significantly higher than that of the others. By the time passed, the pH of the syrup was decreased.
At room temperature, the rate of degradation was slightly decreased. The result showed that cefaclor monohydrate content to be stable for at least 5 days at room temperature and at least 14 days at refrigerated condition.

[PD4-15] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

A Collaborative Study to Establish a Korean Reference Standard for Factor VIII:C Concentrate

Kang HyeNa°, Kim JongMi, Kim SoonNam, Lee KiHong, Yoo SiHyung, Shin InSoo, Choi SeungEun, Lee SeokHo, Hubbard Anthony R*., Hong SeungHwa

Biologics Evaluation Department, Korea Food and Drug Administration and Division of Haematology, NIBSC, UK*

A collaborative study was carried out to evaluate the suitability of the candidate preparation to serve as a Korean Reference Standard for Factor VIII:C concentrate. Five laboratories including three manufacturers and two national control laboratories participated in this study, and the potency of this candidate was determined using two different methods. The one is the one-stage clotting method, described in the Minimum Requirements for Biological Products, and the other is the chromogenic assay, described in the European Pharmacopoeia. To minimize possible substantial discrepancies among laboratories and between assay methods, the following recommendations by the International Society on Thrombosis and Haemostasis were adopted for the assays , e.g., pre-dilution of samples in FVIII-deficient plasma, inclusion of 1% albumin in the dilution buffer and calibration against the 6th International Standard for blood coagulation Factor VIII:C, coded 97/616. The results of this study were in good agreements among laboratories with the inter-laboratory coefficient of variations of 10.51%. The mean value for estimates obtained by the one-stage clotting method was 8.27 IU/vial, and that by the chromogenic assay was 6.88 IU/vial. Based on the results of the collaborative study, the candidate reference standard is judged to be suitable to serve as the National Reference Standard for Factor VIII:C Concentrate.

[PD4-16] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Comparison of the Chromogenic Assay and Clotting Assay Methods for the Potency Test of the Intermediate and High Purity Factor VIII:C Concentrates in Korea

Kang HyeNa°, Kim SoonNam, Lee KiHong, Yoo SiHyung, Shin InSoo, Choi SeungEun, Lee SeokHo, Hur SookJin*, Hong SeungHwa

Biologics Evaluation Department, Korea Food and Drug Administration and Test & Analytical Laboratory, Kyung-in Regional KFDA*

The clotting assay was replaced by the chromogenic substrate assay which is recommended by the

European Pharmacopoeia (EP) and the Scientific and Standardization Committee of the International Society on Thrombosis and Haemostasis based on the reliability, convenience and simplicity of the chromogenic assay. A correlation study was carried out with a one-stage factor VIII:C clotting assay and the performance of the chromogenic assay was evaluated using two test kits that fulfilled the requirements of EP for factor VIII concentrates test. Although chromogenic assay has partly differences in measurement principle and standardization, this assay has a high correlation with clotting assay in various types of factor Ⅷ concentrates and factor Ⅷ standard. We conclude that the chromogenic assay for factor VIII:C concentrates correlates well with the clotting assay and shows good analytical performance.

[PD4-17] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Capillary Electrophoretic Analysis of PEGylated Interferon Alpha

Na Dong Hee°, Park Eun Ji, Lee Seung Seok, Lee Sang Deuk, Jo Young Woo, Lee Sung Hee, Kim Won Bae, Lee Kang Choon

Drug Targeting Laboratory, College of Pharmacy, SungKyunKwan University, Research Laboratories, Dong-A Pharm. Co, Ltd

Capillary electrophoretic method for characterization of PEGylated interferon alpha (IFN) was developed. IFN was modified by the reaction of amine residues with an active ester of monomethoxy polyethylene glycol at various molar ratios. As a CE method, capillary electrophoresis sodium dodecyl sulfate nongel sieving (CE-SDS-NGS) was performed using an uncoated capillary filled with a hydrophilic replaceable polymer network matrix. The results were compared to those obtained using SDS-PAGE with barium iodide staining and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). CE-SDS-NGS showed good resolution between each PEGylated IFN species as well as the native IFN. The total amount and distribution of PEGylated IFN species were directly measured and the relative standard deviation (RSD) was around 1-3%. The distribution profile of PEGylation determined by CE-SDS-NGS was found to be consistent with that obtained by SDS-PAGE. CE-SDS-NGS provides a novel approach for the analysis of PEGylated proteins and shows the advantages of speed, high resolution, automation, and quantitation over SDS-PAGE.

[PD4-18] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Diagnosis of Organic Acidurias by GC-MS combined with Solid-Phase Extraction and Methoxime-tert.-Butyldimethylsilylation

Paik ManJeong°, Lee YoonSuk, Kim KyoungRae, Lee HongJin

College of Pharmacy, Sungkyunkwan University. Hallym University Hospital

Organic acidurias are inherited metabolic disorders generally caused by the diminished activity or absence of specific enzymes involved in the metabolic pathway. Solid-phase extraction of urinary organic acids using Chromosorb P was performed after methoximation of keto acids in alkalinized urine samples, followed by conversion to stable tert.-butyldimethylsilyl (TBDMS) derivatives for the profiling analysis by gas chromatography-mass spectrometry. Each organic acid was identified through home-built TBDMS library matching. The diagnostic usefulness of the present organic acid profiling analysis was demonstrated by comparing urinary profile of normal subject to those of patients with methyl malonicaciduria, isovaleric aciduria and propionic aciduria.

[PD4-19] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Validation of Ethoxycarbonylation combined with tert.-Butyldimethylsilylation for the