

[PD4-36] [04/18/2003 (Fri) 13:30 – 16:30 / Hall P]

Determination of nucleosides in human urine by high-performance liquid chromatography with electrospray ionization mass spectrometry(LC/ESI-MS)

Lee Sang Hee^o, Jung Byung Hwa, Kim Sun Yeou, Kim HoCheol, Chung Bong Chul

Korea Institute of Science and Technology

Oxidative DNA damage has been associated with many disease. Quantation of DNA adducts is considered to be a useful biomarker of oxidative DNA damage because its formation can also be induced by oxidative stress. Extensive efforts have been taken to identify the analytical methods for minimizing the artifactual formation of oxidative DNA damage. We have done direct analysis of DNA adducts using LC/ESI-MS without urine sample extraction. The method is simple and selective at urinary nucleosides. Fifteen nucleosides were evaluated on the concentration range from 1 nmol/ml to 300 nmol/ml and their coefficients variation(%) were from 1.05% to 16.38%. The mean value level of urinary pseudouridine in osteoporosis patients was 3.352 nmol/ μ mol creatinine and that benign prostatic hyperplasia patients was 2.463 nmol/ μ mol creatinine, respectively. The levels were significantly lower than those of controls. The mean value level of N²,N²-Dimethylguanosine in urine of Alzheimer patients was 0.857 nmol/ μ mol creatinine. It were significantly higher than those of controls. The mean level of other nucleosides was not significantly different between the patients and controls. Those results indicate that the developed method was reliable and reproducible for the detection of nucleosides and those nucleosides could be the biomarkers of osteoporosis, benign prostatic hyperplasia, Alzheimer diseases.

[PD4-37] [04/18/2003 (Fri) 13:30 – 16:30 / Hall P]

Measurement of human skin moisture in the near infrared region from 1100 nm to 2200 nm by using a portable system

Suh EunJung^o, Ahn JhiiWeon, Woo YoungAh, Kim HyoJin

College of Pharmacy, Dongduk Women's University

Skin Moisture is an important factor in skin health. Measurement of moisture content can provide diagnostic information on the condition of skin. In this study, a photo diode array type near infrared spectroscopy was used to determine skin moisture. Diffuse reflectance spectra were collected and transformed to absorbance using 1-nm stepsize over the wavelength range of 1100 nm to 2200 nm. Partial least squares regression (PLSR) was applied to develop a calibration model. The developed model predicted skin moisture for validation set with a standard errors of prediction (SEP) of 3.54. The result indicated good correlation between electrical and near infrared spectroscopic methods. This study showed the possibility of skin moisture measurement using near infrared spectroscopy.

[PD4-38] [04/18/2003 (Fri) 13:30 – 16:30 / Hall P]

An effective immunoaffinity clean-up method for multi-DDT residue analysis

Hong Ji Youn^o, Hong Jee Eun, Lee Eun Ah, Park Song-Ja, Lho Dong-Seok, Kim Jong-Hyun, Choi Myung Ja