Topic [6] **Oral( ) / Poster(O)**

Development of Liquid Phase Glucose Analysis System Using Reverse Iontophoretic Extraction of Body Fluid

Dongwoo Kim[1], MiKyoung Lee[1], and Hee Chan Kim[2*]

1. Institute of Medical & Biological Engineering, Medical Research Center, Seoul National University, Seoul 110-744, Korea
2. Department of Biomedical Engineering, College of Medicine, Seoul National University, Seoul 110-744, Korea

E-mail : indykide@melab.snu.ac.kr

A liquid phase glucose analysis system was proposed to measure glucose in interstitial fluid which was extracted by reverse iontophoretic extraction. The developed system has flow type and in-situ miniaturized measuring cell which make below important features available: Stable baseline could be obtained by using flow cell. Also the extracted glucose concentration could be enhanced by using miniaturized cell. And in-situ analysis system could make this system as a portable glucose monitoring device. An in-vitro test and a pre-clinical test with SD-rat were performed to evaluate performance and feasibility of the system. As a result of the animal test, the developed system showed good stability of base line and enhanced sensitivity of ISFG, which showed possibility of applying this system to the clinical application.

References