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ONLINE ISSN : 1348-2246

PRINT ISSN : 0910-6340

Analytical Sciences

Vol. 26 (2010) , No. 6 p.693

[\[PDF \(589K\)\]](#) [\[References\]](#)**Simultaneous Determination of Antidepressants by Non-aqueous or Quasi-non-aqueous Capillary Electrophoresis**[Yasuhide SASAJIMA](#)¹⁾²⁾, [Lee Wah LIM](#)¹⁾, [Toyohide TAKEUCHI](#)¹⁾, [Koichi SUENAMI](#)²⁾, [Kiyohito SATO](#)²⁾ and [Yuji TAKEKOSHI](#)²⁾1) *Department of Chemistry, Faculty of Engineering, Gifu University*2) *Criminal Investigation Laboratory, Gifu Pref. Police H. Q.*

(Received February 12, 2010)

(Accepted April 7, 2010)

Simultaneous determinations of 20 antidepressants were carried out by non-aqueous capillary electrophoresis using a background electrolyte consisting of an organic solvent. A bubble cell fused silica capillary (112.5 cm × 50 μm i.d., 150 μm i.d. bubble) was used as an electrophoresis tube. The determination was carried out at 215 nm, while the detection wavelength between 190 and 500 nm was selected for qualitative analysis. When an acetonitrile solution alone was used as the background electrolyte, good separation was observed, but it was not sufficient to separate all tested analytes. It was found that better separation was acquired by adding a few other solvents into acetonitrile, such as water and methanol; the best separation was achieved with a mixture of acetonitrile containing 60 mM ammonium acetate and 1 M acetic acid/water/methanol (100:1:0.5, v/v/v). As for the plasma sample, liquid-liquid extraction and solid-phase extraction (SPE) were considered; as a result, SPE with Oasis HLB was found to be most suitable. The present method is very useful as regards to plasma samples.

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To cite this article:

Yasuhide SASAJIMA, Lee Wah LIM, Toyohide TAKEUCHI, Koichi SUENAMI, Kiyohito SATO and Yuji TAKEKOSHI, *Anal. Sci.*, Vol. 26, p.693, (2010) .

doi:10.2116/analsci.26.693

JOI JST.JSTAGE/analsci/26.693

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