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## Quantification of valproic acid in human plasma using high performance liquid chromatography-photodiode array

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Valproic acid is one of the mostly used antiepileptic drug that has a lot of side effects, therefore it is highly recommended to determine its plasma concentration. This research objective is to develop an analytical method of valproic acid without derivation in human plasma starting from optimum chromatography condition, optimum plasma preparation method, analysis method validation, until application of validated analysis method. The optimum chromatographic condition was obtained using: C-8 Symmetry® (5µm; 150 x 3.9mm), 45°C temperature column, the mobile phase contains buffer sodium dihydrogen phosphate 40 mM pH 3.5 – acetonitrile (56:44 %v/v); flow rate was 1.00 mL/min; which was detected by photodiode array detector at wavelength of 210 nm; and nonanoic acid as internal standard. Optimum preparation method is liquid-liquid extraction method using phosphate acid and n-hexana extracted with 150 µL triethylamine 0.5%; shaken with vortex for 2 minutes; and centrifuged for 10 minutes. Validation result of valproat acid analysis method fulfilled the validation requirement using EMEA Bioanalytical Guideline in the year 2011. The acquired method is linear at concentration range of 2.0 – 200.0 µg/mL with  $r > 0.9992$ . This validated method analysis was successfully applied on one healthy subject to determine valproic acid concentration after oral administration of 500mg valproic acid extended release caplet.

### Biography

Yahdiana Harahap has completed her PhD from Department of Pharmacy, Institute Technology Bandung, Indonesia. At present she is the Head of Biavailability and Bioequivalence laboratory Faculty of Pharmacy, Universitas Indonesia. Prior to this position, she was the Dean of Faculty of Pharmacy, Universitas Indonesia. She has published 40 papers published in both international and national journals. She has been invited to be the speakers in many international conference, especially in the field of BA/BE and Bioanalysis technique. She currently serves as an expert at Indonesia National Agency of Drug and Food Control, specifically in BA/BE evaluation.

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