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[\[PDF \(495K\)\]](#) [\[References\]](#)**Sequential Injection-Cation Exchange Micro-column System for Hemoglobin Typing to Differentiate HbE Carriers**[Supaporn KRADTAP HARTWELL^{1\)}](#), [Worathip SRIPAORAYA^{1\)}](#), [Somchai LAPANANTNOPPAKHUN^{1\)}](#), [Torpong SANGUANSEMSRI^{2\)}](#) and [Kate GRUDPAN^{1\)}](#)*1) Department of Chemistry and Center for Innovation in Chemistry, Faculty of Science, Chiang Mai University**2) Department of Pediatrics, Faculty of Medicine, Chiang Mai University***(Received September 28, 2009)****(Accepted October 29, 2009)**

A weak cation exchange micro-column was incorporated into a sequential injection (SI) system to perform automatic hemoglobin (Hb) typing as an alternative way to measure HbE. Separation of HbF, HbA and HbA₂/HbE was performed using phosphate buffer solutions in the pH range of 6 – 7 to create pH gradient mobile phase. The resultant chromatogram showed relative amounts of HbE to other types of hemoglobins in more quantitative detail than the conventional techniques such as dichlorophenol indophenol precipitation and micro-column anion exchange. The system is more economical than a commercially available ion-exchange HPLC analyzer for hemoglobin testing, though analysis time per run is longer due to the aspiration operation of the syringe pump of the SI system. It has been demonstrated that the system can differentiate negative (normal) from positive (HbE carriers) subjects.

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