ELECTRONIC SUPPLEMENTARY INFORMATION

ASSESSMENT OF CAPILLARY VOLUMETRIC BLOOD MICROSAMPLING FOR THE ANALYSIS OF CENTRAL NERVOUS SYSTEM DRUGS AND METABOLITES

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Figure ESI1. (a) HemaPEN DBS sampling; (b) filled capillaries before generating DBS; (c) fixed-volume, pre-cut DBS generated within the device; (d) hemaPEN opening by means of the dedicated cutting tool; (e) device sample holder with dried DBS samples.

EXP1. Fluid sample pretreatment procedure

The results obtained from hemaPEN DBS samples were compared to those obtained from fluid matrix counterparts (plasma) by using a fully validated procedure. Sample pretreatment was based on solid phase extraction (SPE).

Briefly, the plasma SPE procedure was carried out using Oasis HLB (hydrophilic–lipophilic balance) cartridges (30 mg, 1 mL) from Waters, previously activated with 2 × 1 mL of methanol and conditioned with 2 × 1 mL of ultrapure water. An aliquot of 100 µL of plasma diluted with 490 µL of water and 10 µL of ISs solution in mobile phase was loaded onto the cartridge, then sequentially washed with 1 mL of ultrapure water and with 1 mL of a water/methanol mixture (80:20). The analytes were then eluted with 500 µL of pure methanol, dried under vacuum, re-dissolved with 100 µL of mobile phase and injected in the LC-MS/MS system. As for validation results, extraction yield data were always > 90% (> 91% for ISs); precision results were also satisfactory: RSD values for intraday precision were < 4.4% (< 3.6% for ISs), RSD values for interday precision were < 4.7% (< 4.1% for ISs). LOQ values ranged from 0.5 to 2.5 ng/mL.

Table ESI1. Linear regression parameters of whole blood – HemaPEN DBS result comparison.

Analyte	r^2	Slope	Intercept (ng/mL)
FLX	0.9831	0.9394	2.63
NFLX	0.9949	0.8139	12.03
SRT	0.9764	0.9360	4.35
NSRT	0.9831	0.9394	2.64