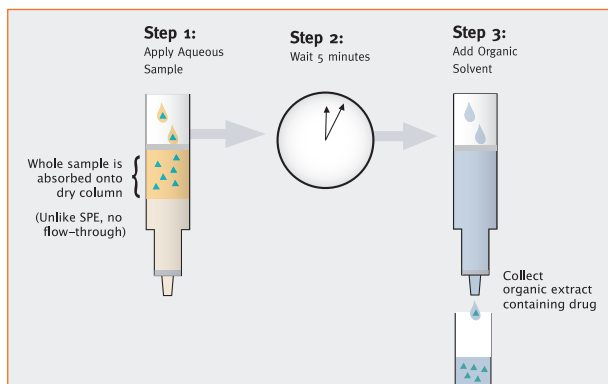


ISOLUTE® SLE+

Supported Liquid Extraction Plates and Columns

Improve Productivity and Maximize Analyte Recovery

ISOLUTE® SLE+ Supported Liquid Extraction plates and columns offer an efficient alternative to traditional liquid-liquid extraction (LLE) for bioanalytical sample preparation, extracting up to 10 mL of aqueous sample. ISOLUTE SLE+ provides high analyte recoveries, eliminates emulsion formation and reduces sample preparation time by half.



Efficient extraction

Supported-liquid extraction mechanisms are very efficient, delivering higher analyte recoveries and cleaner extracts than the equivalent LLE method.

No emulsion formation

Emulsions cannot form because the sample and water immiscible extraction solvent are never in direct contact, preventing contamination and maximizing analyte recovery.

Easy to automate

ISOLUTE SLE+ plates and columns provide an easy-to-automate alternative to traditional liquid-liquid extraction. No manual 'off-line' steps (capping/mixing/centrifuge/de-capping) required. All procedural steps can be fully automated with no manual intervention necessary.

Higher productivity

Using 96 well plates, up to 96 samples can be prepared in approximately half the time needed for liquid-liquid extraction as shown in Table 1. Additionally, the rapid methodology, which simply consists of adding sample, waiting 5 minutes and eluting, reduces sample preparation time regardless of format.

Technique	Time for processing 96 samples
ISOLUTE SLE+	12.5 min
LLE	22.5 min

Table 1. Using the Quadra-96™ liquid handling system, standard ISOLUTE SLE+ generic procedure vs. equivalent LLE procedure

Good flow characteristics

ISOLUTE SLE+ plates and columns are packed with an optimized grade of diatomaceous earth, providing reproducible flow characteristics from sample to sample. Aqueous samples and extraction solvents load evenly, an important feature when using automated sample preparation procedures, where well blockage can lead to loss of valuable samples.

ISOLUTE SLE+ extraction mechanism

When the aqueous biological fluid sample is applied to an ISOLUTE SLE+ column or plate, it spreads over the surface of the support and is absorbed. The analytes remain on the surface of the support forming the interface for the extraction; equivalent to the phase interface in LLE. When the water immiscible extraction solvent is applied, analytes are efficiently desorbed, and the solvent is collected.

Higher analyte recoveries

High extraction efficiency and elimination of emulsions provides higher analyte recoveries and lower detection limits compared with LLE as seen in Figure 1.

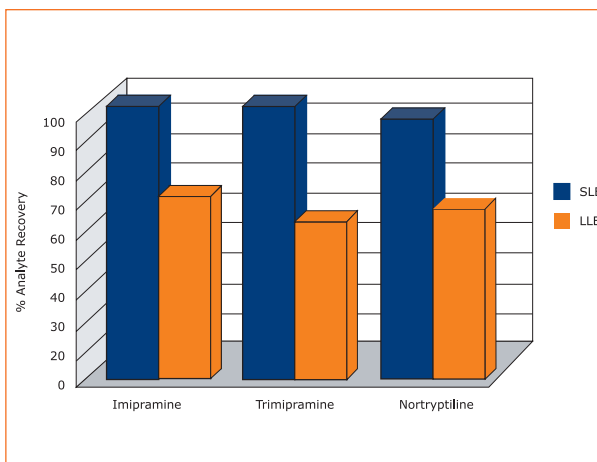


Figure 1. Comparison of analyte recovery by ISOLUTE SLE+ and LLE

Transferable methods

The water immiscible extraction solvents used in LLE can also be used for ISOLUTE SLE+ procedures. Sample pretreatment conditions are also the same, meaning existing LLE methods are easily transferable to ISOLUTE SLE+, reducing method development time. Additionally, Biotage have shown using a suite of analytes (β -blockers and NSAIDs) that methodologies are scalable between formats. See Figure 2.

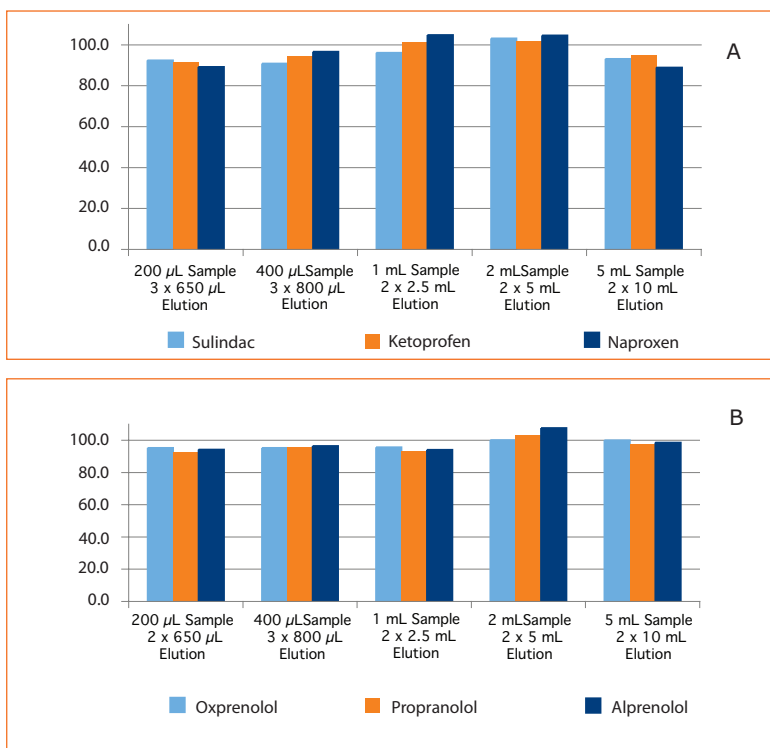


Figure 2. Scalability of columns using both NSAIDs (A) and β -Blocker (B) analyte suites.

ISOLUTE SLE+ 96 well plates and columns are optimized for the simultaneous extraction of aqueous samples using a generic methodology* for neutral, acidic or basic compounds. The plate is processed using a vacuum manifold, e.g. VacMaster™-96 for 96 well plates, VacMaster 10 and VacMaster 20 for columns or automated liquid handling system with vacuum capability. Sample is applied to the plate under vacuum. The aqueous portion is absorbed onto the sorbent for 5 minutes, unlike SPE, sample does NOT flow through the plate. A water immiscible solvent is then applied to the plate, desorbing the analytes of interest, which are collected in a collection plate/tube. Extracts can then be evaporated and reconstituted in a solvent suitable for analysis (generally by LC-MS/MS).

ISOLUTE SLE+ is available in formats suitable for processing from 200 μ L to 10 mL.

* A generic procedure for Supported Liquid Extraction of biological fluids using ISOLUTE SLE+ plates and columns in every box

Ordering Information

Item	Quantity	Part Number
ISOLUTE SLE+ 200 μ L Supported Liquid Extraction Plate	1	820-0200-P01
ISOLUTE SLE+ 400 μ L Supported Liquid Extraction Plate	1	820-0400-P01
ISOLUTE SLE+ 200 μ L Array Wells	100	820-0200-T
ISOLUTE SLE+ 400 μ L Array Wells	100	820-0400-T
ISOLUTE SLE+ 1 mL Sample Volume	30	820-0140-C
ISOLUTE SLE+ 2 mL Sample Volume	20	820-0290-D
ISOLUTE SLE+ 5 mL Sample Volume	20	820-0690-E
ISOLUTE SLE+ 10 mL Sample Volume	16	820-1420-F

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