

ISOLUTE® SLE+



Supported Liquid Extraction Plates



Improve Productivity and Maximize Analyte Recovery

ISOLUTE® SLE+ Supported Liquid Extraction Plates offer an efficient alternative to traditional liquid-liquid extraction (LLE) for bioanalytical sample preparation, extracting up to 400 μ L of aqueous sample. ISOLUTE SLE+ plates provide high analyte recoveries, eliminate emulsion formation, and cut sample preparation time in 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 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

96 samples can be prepared in approximately half the time needed for liquid-liquid extraction as shown in Table 1.

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

The ISOLUTE SLE+ plate is packed with an optimized grade of diatomaceous earth, providing reproducible flow characteristics from well-to-well. Aqueous samples and extraction solvents load evenly across the plate, an important feature for automated sample preparation procedures, where well blockage can lead to loss of valuable samples.

Higher analyte recoveries

High extraction efficiency and elimination of emulsions provide higher analyte recoveries and lower detection limits as seen in Figure 2.

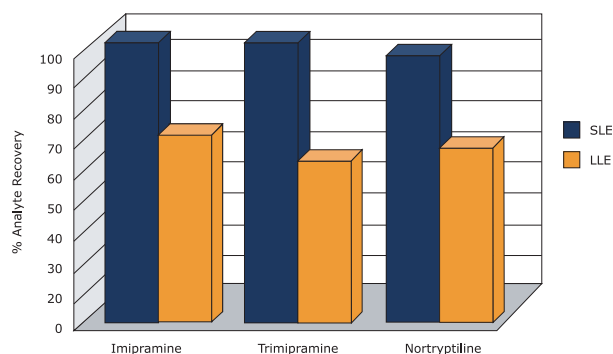


Figure 2. Comparison of analyte recovery by ISOLUTE SLE+ and LLE

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.



SLE in 96-well plate format

The ISOLUTE SLE+ plate consists of 96 wells each containing a modified form of diatomaceous earth. When the aqueous biological fluid sample is applied, 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. This process is shown schematically in Figure 2.

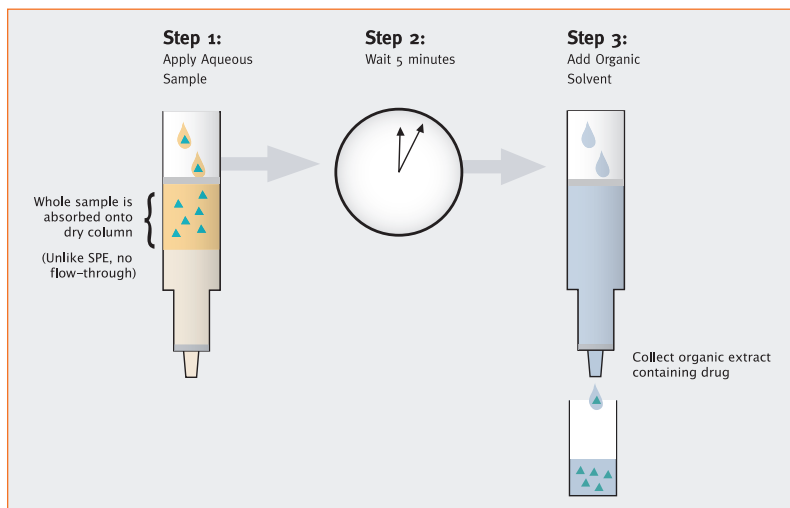


Figure 2. Schematic of Supported Liquid Extraction Process

The 96 well-plate format is 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, or automated liquid handling system with vacuum capability. Sample is applied to the plate under vacuum. The aqueous portion is absorbed (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. Extracts can then be evaporated and reconstituted in a solvent suitable for analysis (generally by LC-MS/MS).

Two ISOLUTE SLE+ plates are available. The 200 mg plate allows a total aqueous sample load of up to 200 µL; the 400 mg plate allows aqueous sample load of 200 – 400 µL.

* A generic procedure for Supported Liquid Extraction of biological fluids using ISOLUTE SLE+ Plates is included with every plate.

www.biotage.com

UNITED STATES AND CANADA
Main Office: +1 434 979 2319
Toll Free: +1 800 446 4752
Fax: +1 434 979 4743
Order Tel: +1 434 220 2687
Order Fax: +1 434 296 8217
ordermailbox@biotage.com

EUROPE
Main Office: +46 18 56 5900
Fax: +46 18 59 1922
Order Tel: +46 18 56 57 10
Order Fax: +46 18 56 57 05
order@eu.biotage.com

JAPAN
Tel: +81 422 28 1233
Fax: +81 422 28 1236
jp_order@biotage.com

Ordering Information

Item	Quantity	Part Number
ISOLUTE SLE+ 200 mg Supported Liquid Extraction Plate	1	820-0200-P01
ISOLUTE SLE+ 400 mg Supported Liquid Extraction Plate	1	820-0400-P01

Copyright © 2008 Biotage. All rights reserved. All brand and product names are trademarks or registered trademarks of their respective companies. The information contained in this document is subject to change without notice.

