

Supported Liquid Extraction (SLE)

For Pharmaceutical Applications

Novum™ Synthetic SLE

Unique, Synthetic Sorbent that
Provides Consistent, Reliable Results

Strata® DE Diatomaceous Earth SLE

Cost-Effective, Guaranteed Alternative to
Traditional Diatomaceous Earth SLE Sorbents



phenomenex®
...breaking with traditionSM

www.phenomenex.com/PharmaSLE



Choose the Best SLE Solution for Your Analysis

Phenomenex provides two options for your SLE analysis, a unique synthetic sorbent and a traditional diatomaceous earth sorbent, each of which provides its own benefits. Select the best option for your work by using the chart below.



| | Sorbent |
|---|--|
| Synthetic | Diatomaceous Earth |
| Advantages | |
| Lot-to-lot consistency and reproducibility | Cost effective and large volume capabilities |
| Extraction Solvents | |
| Ethyl Acetate, Methyl Tert-Butyl Ether (MTBE) | Dichloromethane (DCM), Hexane, MTBE, Ethyl Acetate |
| Plate Formats | |
| MINI 96-Well Plates, MAX 96-Well Plates | 200 μ L 96-Well Plates, 400 μ L 96-Well Plates |
| Tube Formats | |
| 1 cc, 3 cc, 6 cc, 12 cc | 12 cc and 60 cc |

Need Help Selecting the Right SLE Option?



Call us

or



Live Chat

www.phenomenex.com/LiveChat

Explore Your SLE Options and Applications

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A Unique, Synthetic Sorbentp. 4

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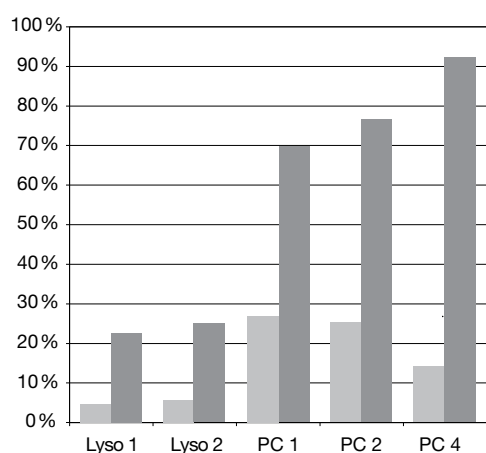
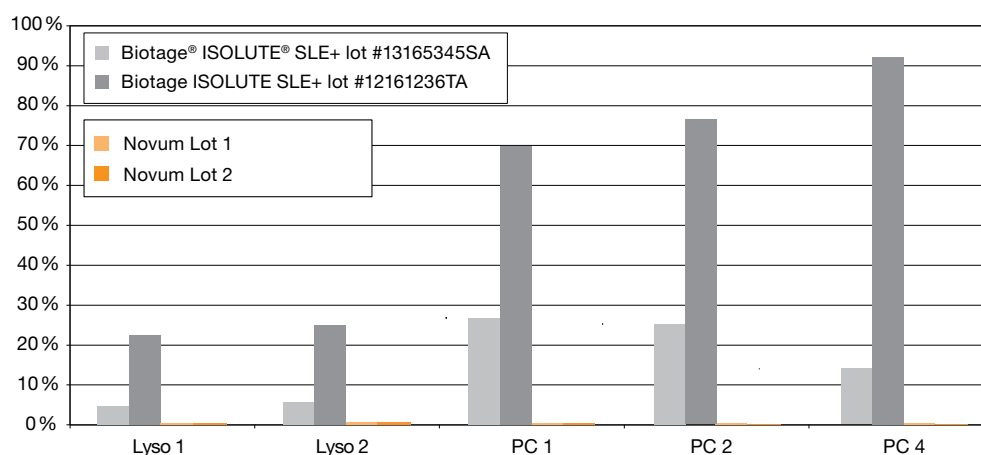
Synthetic SLE

As a unique, synthetic SLE sorbent, expect Novum to provide reliable, more consistent lot-to-lot cleanup that excels under extraction conditions where traditional diatomaceous earth SLE falls short, such as ethyl acetate.

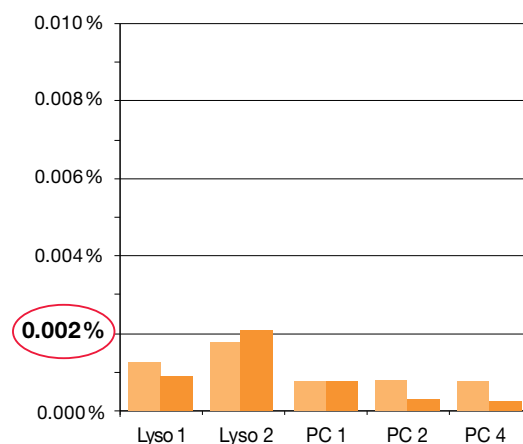
Recommended Uses:

- Ethyl acetate extractions
- Smaller volume samples

Lot-to-Lot Phospholipid Breakthrough: Novum SLE vs. Traditional Diatomaceous Earth SLE



**Consistently
remove > 99.9 % of
phospholipids**



Lyso 1: 1-Palmitoyl-2-OH-sn-glycero-phosphocholine (m/z 496-184)
 Lyso 2: 1-Oleoyl-2-OH-sn-glycero-phosphocholine (m/z 522-184)
 PC 1: 1-Palmitoyl-2-Oleoyl-sn-glycero-phosphocholine (m/z 761-184)
 PC 2: 1-Stearoyl-2-Lindoleoyl-sn-glycero-phosphocholine (m/z 787-184)
 PC 4: 1-Oleoyl-2-Lindoleoyl-sn-glycero-phosphocholine (m/z 784-184)

Diatomaceous Earth SLE



Packed with diatomaceous earth, Strata DE is a cost-effective alternative to traditional SLE products such as Biotage® ISOLUTE® SLE+, Thermo Fisher® Hypersep™ SLE, and Agilent® Chem Elut™ SLE that won't require you to sacrifice your results.

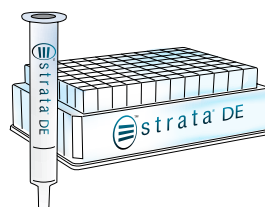
Recommended Uses:

- Direct alternative to traditional diatomaceous earth SLE sorbents
- Non-oxygenated extraction solvents such as DCM and Hexane

Recovery Values and % CVs: Strata DE SLE vs. Biotage ISOLUTE SLE+

| Analyte | Strata DE | | Biotage ISOLUTE SLE+ | |
|------------------|------------|------------|----------------------|------------|
| | % Recovery | % CV (n=8) | % Recovery | % CV (n=8) |
| 6-MAM | 98 | 9 | 88 | 16 |
| Alprazolam | 104 | 10 | 98 | 11 |
| Benzoylcegonine | 88 | 6 | 98 | 11 |
| Buprenorphine | 93 | 7 | 102 | 15 |
| Codeine | 99 | 12 | 93 | 9 |
| Diazepam | 107 | 7 | 104 | 6 |
| Fentanyl | 85 | 5 | 94 | 8 |
| Hydrocodone | 104 | 11 | 93 | 11 |
| Hydromorphone | 95 | 9 | 93 | 11 |
| Lorazepam | 94 | 8 | 98 | 8 |
| Methamphetamine | 92 | 16 | 102 | 8 |
| Morphine | 98 | 12 | 94 | 12 |
| Norbuprenorphine | 101 | 11 | 92 | 11 |
| Nordiazepam | 100 | 9 | 92 | 8 |
| Norfentanyl | 113 | 7 | 110 | 11 |
| Oxycodone | 97 | 5 | 93 | 11 |
| PCP | 90 | 7 | 98 | 6 |

Comparative separations may not be representative of all applications.



**Achieve the Same Recoveries
as Biotage ISOLUTE SLE+,
at a Lower Price!**

SLE Protocol

| | |
|-----------------------|--|
| 96-Well Plate: | Strata DE SLE 400 µL 96-Well Plate Biotage ISOLUTE SLE+ 400 µL 96-Well Plate |
| Part No.: | 8E-S325-5GB (Strata DE) |
| Load: | 300 µL pre-treated sample onto plate (apply vacuum or positive pressure to pull/push sample into sorbent if necessary) |
| Wait: | 6 minutes |
| Elute: | 3x 600 µL Dichloromethane/IPA (95:5) |
| Apply: | Vacuum or apply positive pressure at 5-10" Hg for 10 seconds |
| Dry: | Sample under slow stream of Nitrogen at 30 °C |
| Reconstitute: | 100 µL 0.1 % Formic Acid/Methanol (4:1) with internal standard |

Basic Drugs from Plasma

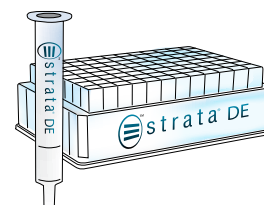
Many drugs within pharmaceutical labs are proprietary, "Basic Drug A" is analyzed as a representative drug that contains an amine group and hydrophobic ring structures, both of which are common to most pharmaceutical drugs.

Sample Pre-treatment

Dilute 150 μ L Plasma with 140 μ L 2 % NH_4OH and 10 μ L "Basic Drug A" spiking solution (1 μ g/mL)

SLE Protocol

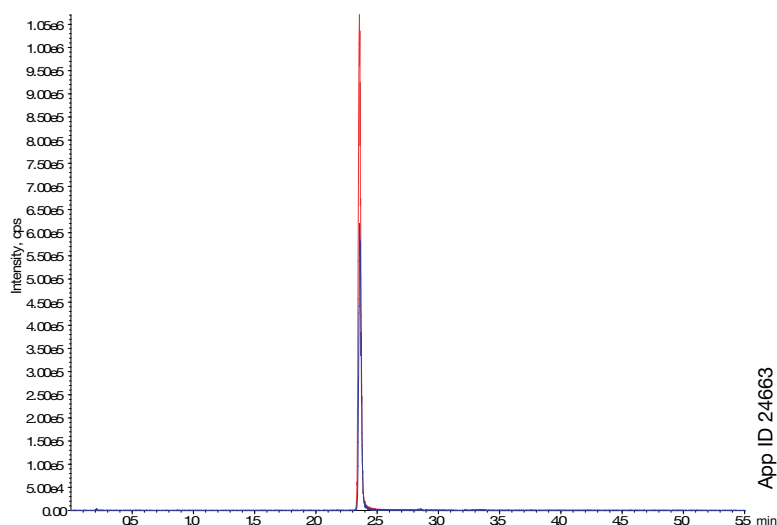
| | |
|-----------------------|---|
| 96-Well Plate: | Strata® DE 200 μ L |
| Part No.: | 8E-S325-FGB |
| Load: | 200 μ L Pre-treated sample onto plate (apply vacuum or positive pressure to pull/push sample into sorbent) |
| Wait: | 5 minutes |
| Elute: | 2x 600 μ L Heptane |
| Apply: | Vacuum or apply positive pressure at 5-10" Hg for 10 seconds |
| Dry: | Sample under slow stream of Nitrogen at 30 °C |
| Reconstitute: | 100 μ L Methanol/Water (80:20) with internal standard |



- Heptane Extraction with High Recovery
- Automatable for High Throughput Processing

| Analyte | % Recovery | %CV (n=8) |
|--------------|------------|-----------|
| Basic Drug A | 92 | 6 |

Extracted Chromatogram After Clean-up Using Strata DE SLE



LC-MS/MS Conditions

| | | |
|--------------------------|---|------------|
| Column: | Kinetex® 2.6 μ m Biphenyl | |
| Dimensions: | 50 x 2.1 mm | |
| Part No.: | 00B-4622-AN | |
| Mobile Phase: | A: 0.1 % Formic acid in Water B: 0.1 % Formic acid in Acetonitrile | |
| Gradient: | Time (min) | % B |
| | 0 | 20 |
| | 3 | 70 |
| | 4 | 70 |
| | 4.01 | 20 |
| | 5.5 | 120 |
| Flow Rate: | 0.5 mL/min | |
| Injection Volume: | 5 μ L | |
| Detection: | MS/MS (SCIEX API 4000™), ESI+ | |

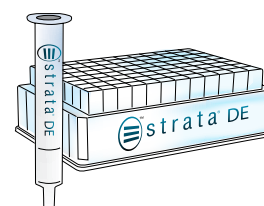
NSAIDs from Urine

Pre-treatment

Dilute 100 μ L of spike urine (100 ng/mL) with 100 μ L of 0.1 % Formic acid.

SLE Protocol

| | |
|-----------------------|--|
| 96-Well Plate: | Strata® DE 200 μ L |
| Part No.: | 8E-S325-FGB |
| Load: | 200 μ L Pre-treated sample |
| Wait: | 6 minutes |
| Elute: | 2x 600 μ L Ethyl acetate/Hexane (3:1) |
| Dry: | Sample under slow stream of Nitrogen at 30 °C |
| Reconstitute: | 100 μ L 0.1 % Formic acid in Methanol with 100 ng/mL concentration of Diclofenac D4, Acetaminophen D7, Naproxen D3 |



- Small Sample Volume
- High Recovery for NSAIDs
- Cost Effective NSAID Extraction

Recovery Values

| | Acetaminophen | Naproxen | Diclofenac |
|--------------------|---------------|----------|------------|
| % Recovery | 96 | 84 | 109 |
| % RSD (n=8) | 9 | 9 | 5 |

LC-MS/MS Conditions

Columns: Kinetex® 2.6 μ m C18

Dimensions: 50 x 2.1 mm

Part No.: 00B-4462-AN

Guard Cartridge: SecurityGuard™ ULTRA C18

Part No.: AJ0-8782

Mobile Phase: A: 0.1 % Formic acid in Water

B: 0.1 % Formic acid in Acetonitrile

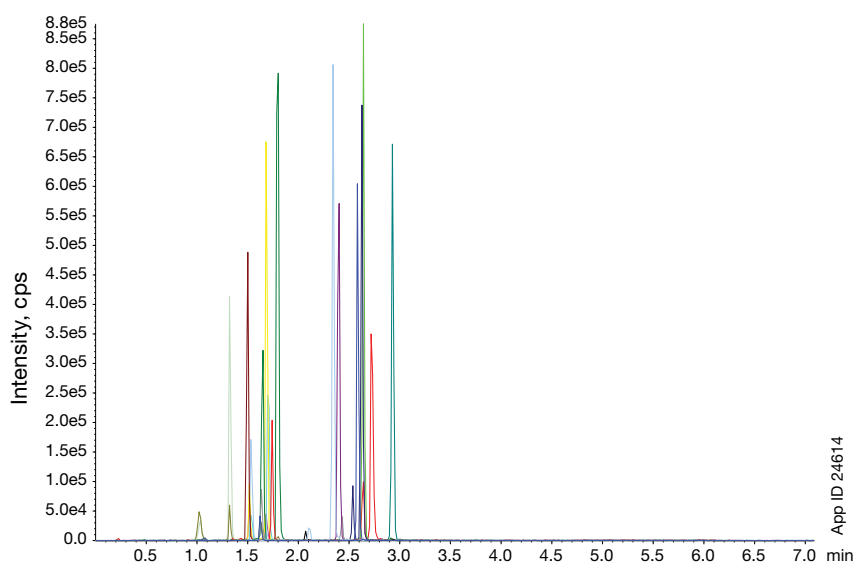
| Gradient: Time (min) | % B |
|----------------------|-----|
| 0 | 10 |
| 2.5 | 100 |
| 3.5 | 100 |
| 3.51 | 10 |

Flow Rate: 0.5 mL/min

Injection: 3 μ L

Detection: MS/MS (SCIEX API 4000™)

TIC for Extracted Sample



App ID 24614

NSAIDs from Plasma

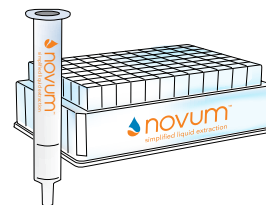
Sample Pre-treatment

Dilute 200 µL Plasma with 200 µL of 1 % Formic acid in water. Vortex briefly (3-5 seconds).

SLE Protocol

| | |
|-----------------------|--|
| 96-Well Plate: | Novum™ SLE MAX |
| Part No.: | 8E-S138-5GA |
| Load: | Pre-treated sample and pulse vacuum (~5" Hg) for 5-10 seconds or until sample has completely entered the sorbent |
| Wait: | 5 minutes |
| Elute: | 2x 900 µL of % Ethyl acetate in Dichloromethane, allow to elute via gravity (~5 minutes per aliquot) |
| Apply: | Vacuum or apply positive pressure at 5" Hg for 20-30 seconds to complete the elution |
| Dry: | Sample under slow stream of Nitrogen at 30 °C |
| Reconstitute: | 200 µL Methanol/Water (10:90) by vortexing the plate at 1400 rpm for 2 minutes |

| Analyte | % Average Recovery | % CV |
|----------------|--------------------|------|
| Ibuprofen | 82 | 6.70 |
| Diclofenac | 79 | 3.20 |
| Naproxen | 96 | 2.80 |
| Ketoprofen | 96 | 3.10 |
| Mefenamic Acid | 77 | 12.6 |
| Flurbiprofen | 82 | 12.0 |
| Sulindac | 87 | 10.1 |
| Salicylic Acid | 93 | 7.30 |



- Consistently High Recoveries Using Hexane/Ethyl Acetate (3:1) as Extraction Solvent
- Good Sensitivity of THC-COOH

To learn more about Novum and Strata® DE SLE products, go to www.phenomenex.com/SLE

Start your new SLE Method

Synthetic SLE

Novum™ SLE 96-Well Plates



| Novum Simplified Liquid Extraction SLE Well Plates | | |
|--|------------------------------|------|
| Part No. | Description | Unit |
| 8E-S138-FGA | Novum SLE MINI 96-Well Plate | 1/pk |
| 8E-S138-5GA | Novum SLE MAX 96-Well Plate | 1/pk |

Novum SLE Tubes

| Novum Simplified Liquid Extraction SLE Tubes | | |
|--|-----------------------|--------|
| Part No. | Description | Unit |
| 8B-S138-FAK | Novum SLE 1 cc Tubes | 100/pk |
| 8B-S138-5BJ | Novum SLE 3 cc Tubes | 50/pk |
| 8B-S138-JCH | Novum SLE 6 cc Tubes | 30/pk |
| 8B-S138-KDG | Novum SLE 12 cc Tubes | 20/pk |

Diatomaceous Earth SLE



Strata® DE SLE 96-Well Plates

| Strata DE Diatomaceous Earth SLE Well Plates | | |
|--|------------------------------------|------|
| Part No. | Description | Unit |
| 8E-S325-FGB | Strata DE SLE 200 µL 96-Well Plate | 2/pk |
| 8E-S325-5GB | Strata DE SLE 400 µL 96-Well Plate | 2/pk |

Strata DE SLE Tubes

| Strata DE Diatomaceous Earth SLE Tubes | | |
|--|---------------------------|-------|
| Part No. | Description | Unit |
| 8B-S325-KDG | Strata DE SLE 12 cc Tubes | 20/pk |
| 8B-S325-VFF | Strata DE SLE 60 cc Tubes | 16/pk |

guarantee

If Phenomenex SLE products do not perform as well or better than your current SLE product, return the product with comparative data within 45 days for a FULL REFUND.



 **presston 100**

Presston 100 Positive Pressure Manifold

| Presston 100 | | |
|--------------|--|------|
| Part No. | Description | Unit |
| AH0-9334 | Presston 100 Positive Pressure Manifold, 96-Well Plate | ea |
| AH0-9342 | Presston 100 Positive Pressure Manifold, 1 mL Tube Complete Assembly | ea |
| AH0-9347 | Presston 100 Positive Pressure Manifold, 3 mL Tube Complete Assembly | ea |
| AH0-9343 | Presston 100 Positive Pressure Manifold, 6 mL Tube Complete Assembly | ea |

The Presston 100 96-Well Positive Pressure Manifold can also process 1, 3, and 6 mL tubes using the following adapter kits:

| Presston 100 Tube Adapter Kits (for AH0-9334) | | |
|---|-----------------------|------|
| Part No. | Description | Unit |
| AH0-9344 | 1 mL Tube Adapter Kit | ea |
| AH0-9345 | 3 mL Tube Adapter Kit | ea |
| AH0-9346 | 6 mL Tube Adapter Kit | ea |



Vacuum Manifolds

| Vacuum Manifolds | | |
|------------------|---|------|
| Part No. | Description | Unit |
| AH0-6023 | 12-Position Tube Vacuum Manifold Set | ea |
| AH0-6024 | 24-Position Tube Vacuum Manifold Set | ea |
| AH0-8950 | 96-Well Plate Manifold, Universal with Vacuum Gauge | ea |



Phenomenex warrants that for a period of 12 months following delivery, the Presston 100 Positive Pressure Manifold you have purchased will perform in accordance with the published specifications and will be free from defects in materials or workmanship. In the event that the Presston 100 Positive Pressure Manifold does not meet this warranty, Phenomenex will repair or replace defective parts. Please visit www.phenomenex.com/Presston for complete warranty information.



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For Pharmaceutical Applications

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Novum is patent pending.

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