

# APPLICATION

## Extraction of NSAIDs from Plasma by Novum™ Simplified Liquid Extraction (SLE)

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### Overview

NSAIDs or Non-Steroidal Anti-Inflammatory drugs are commonly used to alleviate pain, reduce fever, and as their name suggests, to provide anti-inflammatory effects. These drugs are non-habit forming and can be found over the counter in most countries.

In this application we use the Novum SLE MAX 96-well plate to extract an eight compound NSAID suite from plasma.

### Analytes

1. Ibuprofen
2. Diclofenac
3. Naproxen
4. Ketoprofen
5. Mefenamic Acid
6. Flurbiprofen
7. Sulindac
8. Salicylic Acid

### Sample Pre-treatment Step

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

### Extraction Procedure

#### Sample Loading

- Load the sample from pre-treatment step above onto the Novum SLE MAX 96-well plate (part no. 8E-S138-5GA) and apply a short and gentle pulse of vacuum (~ 5" of Hg) for 5-10 seconds or until the sample has completely entered the media.

#### Elution

- Dispense 900 µL of 10 % Ethyl acetate in dichloromethane (DCM) onto the Novum SLE media and allow the solvent to elute by gravity (~ 5 minute elution time) and collect the eluant in a collection plate.
- Repeat with another 900 µL of 10 % Ethyl acetate in DCM and collect the eluant in the collection plate, pooling the two fractions.
- Apply vacuum at 5" of Hg for 20-30 seconds to complete the extraction.

**NOTE:** Prolonged application of vacuum will result in elution of plasma out of the Novum SLE media and into the final extracted solvent.

### Dry Down

- Evaporate the final extract to complete dryness under a slow stream of N<sub>2</sub> at 40 °C for about 60 minutes.
- Reconstitute with 200 µL of 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



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## Ordering Information

### Novum™ Simplified Liquid Extraction (SLE)

Part No.	Description	Unit/Box
8E-S138-FGA	Novum SLE MINI 96-Well Plate	1/Box
8E-S138-5GA	Novum SLE MAX 96-Well Plate	1/Box

### Accessories

Collection Plates (deep well, polypropylene)		Unit
AHO-7192	96-Well Collection Plate, 350 µL/well	50/pk
AHO-7193	96-Well Collection Plate, 1 mL/well	50/pk
AHO-7194	96-Well Collection Plate, 2 mL/well	50/pk
AHO-8635	96-Well Collection Plate, 2 mL Square/Round-Conical	50/pk
AHO-8636	96-Well Collection Plate, 2 mL Round/Round, 8 mm	50/pk
AHO-7279	96-Well Collection Plate, 1 mL/well Round, 7 mm	50/pk
Sealing Mats		Unit
AHO-8597	Sealing Mats, Pierceable, 96-Square Well, Silicone	50/pk
AHO-8598	Sealing Mats, Pre-Slit, 96-Square Well, Silicone	50/pk
AHO-8631	Sealing Mats, Pierceable, 96-Round Well 7 mm, Silicone	50/pk
AHO-8632	Sealing Mats, Pre-Slit, 96-Round Well 7 mm, Silicone	50/pk
AHO-8633	Sealing Mats, Pierceable, 96-Round Well 8 mm, Silicone	50/pk
AHO-8634	Sealing Mats, Pre-Slit, 96-Round Well 8 mm, Silicone	50/pk
AHO-7362	Sealing Tape Pad	10/pk
Vacuum Manifold		Unit
AHO-8950	96-Well Plate Manifold, Universal with Vacuum Gauge	ea



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Novum is patent pending.

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