

# APPLICATIONS

## Extracting Methylphenidate (Ritalin®) from Plasma using Strata®-X-Drug B Solid Phase Extraction

Matthew Brusius  
Phenomenex, Inc., 411 Madrid Ave., Torrance, CA 90501 USA

### Overview

This application describes an extraction of methylphenidate, commonly known as Ritalin, from plasma using Strata-X-Drug B SPE followed by a LC-MS/MS analysis using a Kinetex® 2.6 µm Biphenyl LC column. By using Strata-X-Drug B, we were able to eliminate the conditioning and equilibration steps, saving significant time and solvent.

### Pre-treatment

Dilute 180 µL plasma and 20 µL spiking solution with 200 µL 0.1% Formic acid in Water.

### SLE Protocol

- 96-Well Plate:** Strata-X-Drug B (30mg/Well)
- Part No.:** 8E-S128\_TGB
- Load:** Pre-treated sample
- Wash 1:** 600 µL 0.1% Formic acid in Water
- Wash 2:** 600 µL Acetonitrile/IPA (1:1)
- Dry:** 5 minutes under vacuum
- Elute:** 2x 300 µL Acetonitrile/Methanol (1:1) with 5% NH<sub>4</sub>OH
- Dry Down:** Under Nitrogen at 30 °C
- Reconstitute:** 100 µL 0.1% Formic acid/Methanol (4:1)

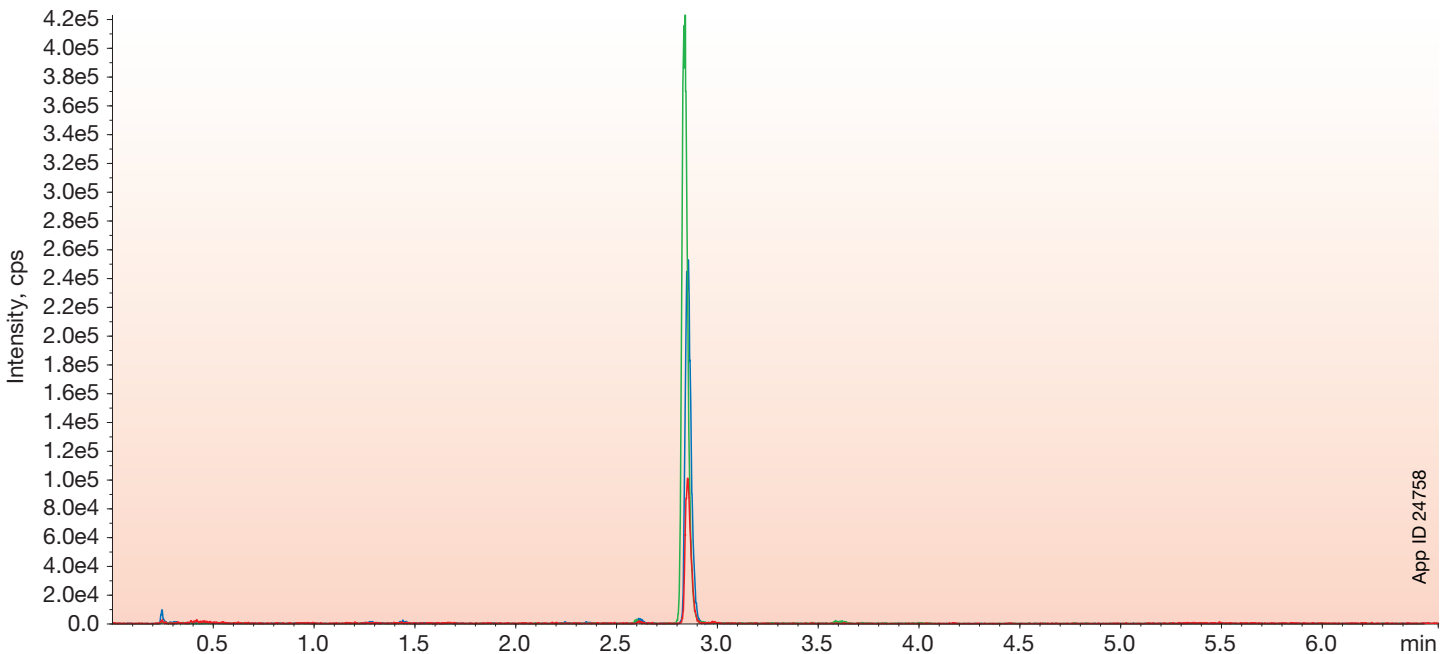
### LC Conditions

- Column:** Kinetex® 2.6 µm 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 Methanol
- Gradient:**

Time (min)	% B
0	5
3	95
4	95
4.01	5
6.5	5
- Flow Rate:** 0.45 mL/min
- Injection Volume:** 5 µL
- Detection:** MS/MS (SCIEX API 4000™)

Concentration	% Recovery	% CV
300 pg (n=7)	99	6
1.5 ng (n=5)	82	7
9 ng (n=6)	98	7

### Extracted Methylphenidate from Plasma



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## Ordering Information Kinetex

Kinetex 2.6 µm Columns (mm)			SecurityGuard™ ULTRA Cartridges†
Phases	50 x 2.1	100 x 2.1	3/pk
Biphenyl	00B-4622-AN	00D-4622-AN	AJ0-9209 for 2.1 mm ID

†SecurityGuard ULTRA cartridges require holder, Part No. AJ0-9000.

## Strata®-X-Drug B Plus SPE

Sorbent Mass	Part No.	Unit
<b>96-Well Plate</b>		
10 mg	8E-S128-AGB-P	2 Plates/Box

## Strata-X-Drug B SPE

Sorbent Mass	Part No.	Unit
<b>Tube</b>		
10 mg	8B-S128-AAK	1 mL (100/box)
30 mg	8B-S128-TAK	1 mL (100/box)
30 mg	8B-S128-TBJ	3 mL (50/box)
60 mg	8B-S128-UBJ	3 mL (50/box)
60 mg	8B-S128-UCH	6 mL (30/box)
60 mg	8B-S128-UCL	6 mL (200/bag)
<b>Giga™ Tube</b>		
100 mg	8B-S128-EDG	12 mL (20/box)
<b>96-Well Plate</b>		
10 mg	8E-S128-AGB	2 Plates/Box
30 mg	8E-S128-TGB	2 Plates/Box

## Presston™ 100 Positive Pressure Manifold

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

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
AH0-9344	1 mL Tube Adapter Kit
AH0-9345	3 mL Tube Adapter Kit
AH0-9346	6 mL Tube Adapter Kit



**WARRANTY** 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](http://www.phenomenex.com/Presston) for complete warranty information.



If Phenomenex products in this technical note do not provide at least an equivalent separation as compared to other products of the same phase and dimensions, return the product with comparative data within 45 days for a FULL REFUND.

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**Australia**  
t: +61 (0)2-9428-6444  
f: +61 (0)2-9428-6445  
auinfo@phenomenex.com

**Austria**  
t: +43 (0)1-319-1301  
f: +43 (0)1-319-1300  
anfrage@phenomenex.com

**Belgium**  
t: +32 (0)2 503 4015 (French)  
t: +32 (0)2 511 8666 (Dutch)  
f: +31 (0)30-2383749  
beinfo@phenomenex.com

**Canada**  
t: +1 (800) 543-3681  
f: +1 (310) 328-7768  
info@phenomenex.com

**China**  
t: +86 400-606-8099  
f: +86 (0)22 2532-1033  
cninfo@phenomenex.com

**Denmark**  
t: +45 4824 8048  
f: +45 4810 6265  
nordicinfo@phenomenex.com

**Finland**  
t: +358 (0)9 4789 0063  
f: +45 4810 6265  
nordicinfo@phenomenex.com

**France**  
t: +33 (0)1 30 09 21 10  
f: +33 (0)1 30 09 21 11  
franceinfo@phenomenex.com

**Germany**  
t: +49 (0)6021-58830-0  
f: +49 (0)6021-58830-11  
anfrage@phenomenex.com

**India**  
t: +91 (0)40-3012 2400  
f: +91 (0)40-3012 2411  
indiainfo@phenomenex.com

**Ireland**  
t: +353 (0)1 247 5405  
f: +44 1625-501796  
eireinfo@phenomenex.com

**Italy**  
t: +39 051 6327511  
f: +39 051 6327555  
italiainfo@phenomenex.com

## www.phenomenex.com

Phenomenex products are available worldwide. For the distributor in your country, contact Phenomenex USA, International Department at [international@phenomenex.com](mailto:international@phenomenex.com)

**Luxembourg**  
t: +31 (0)30-2418700  
f: +31 (0)30-2383749  
nlinfo@phenomenex.com

**Mexico**  
t: 01-800-844-5226  
f: 001-310-328-7768  
tecnicomx@phenomenex.com

**The Netherlands**  
t: +31 (0)30-2418700  
f: +31 (0)30-2383749  
nlinfo@phenomenex.com

**New Zealand**  
t: +64 (0)9-4780951  
f: +64 (0)9-4780952  
nzinfo@phenomenex.com

**Norway**  
t: +47 810 02 005  
f: +45 4810 6265  
nordicinfo@phenomenex.com

**Portugal**  
t: +351 221 450 488  
f: +34 91-413-2290  
ptinfo@phenomenex.com

**Spain**  
t: +34 91-413-8613  
f: +34 91-413-2290  
espinfo@phenomenex.com

**Sweden**  
t: +46 (0)8 611 6950  
f: +45 4810 6265  
nordicinfo@phenomenex.com

**Switzerland**  
t: +41 61 692 20 20  
f: +41 61 692 20 22  
swissinfo@phenomenex.com

**United Kingdom**  
t: +44 (0)1625-501367  
f: +44 (0)1625-501796  
ukinfo@phenomenex.com

**USA**  
t: +1 (310) 212-0555  
f: +1 (310) 328-7768  
info@phenomenex.com

**All other countries  
Corporate Office USA**   
t: +1 (310) 212-0555  
f: +1 (310) 328-7768  
info@phenomenex.com