

APPLICATIONS

Extraction and Analysis of Uracil and 5-Fluorouracil from Serum Using Strata[®]-X-A Solid Phase Extraction Cartridge and Kinetex[®] PS C18 LC Column

Shahana Huq
Phenomenex, Inc., 411 Madrid Ave., Torrance, CA 90501 USA

Overview

In this application, uracil and 5-fluorouracil were extracted from serum using a polymeric strong anion-exchange Strata-X-A SPE sorbent with high recoveries of both analytes and a good response using a Kinetex 2.6 μ m PS C18 LC Column that was designed to deliver consistently sharper peaks for polar bases.

SPE Protocol

96-Well Plate: Strata-X-A 60 mg/well

Part No.: [8E-S123-UGB](#)

Condition: 1 mL Methanol

Equilibration: 1 mL Water

Load: 200 μ L analyte spiked human serum was
Diluted with 600 μ L of 5% NH₄OH

Wash: 1 mL 1% NH₄OH in Water

Dry: For 1 minute at 15-20" of HG

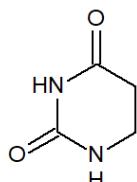
Elute: 2x 500 μ L of 1% Formic acid
in Methanol/Water (60:40)

Dry Down: In a speed vac to complete dryness

Reconstitute: 200 μ L of initial mobile phase

Uracil

Molar mass: 112.088 g/mol
Acidic pK_a: 8.8
LogP: -0.55



5-Fluorouracil

Molar mass: 130.078 g/mol
Acidic pK_a: 7.18
LogP: -0.66

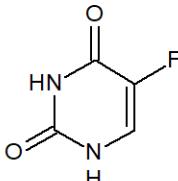


Table 1. % absolute recovery obtained from Serum Extraction(N=4)

Analyte	% Recovery	% CV
1. Uracil	69	1.14
2. 5-Fluorouracil	84	10.4

LC Conditions

Column: Kinetex[®] 2.6 μ m PS C18

Dimension: 150 x 3 mm

Part No.: [00B-4462-Y0](#)

SecurityGuard[™] ULTRA: [AJ0-8775](#)

Mobile Phase: A: 0.1% Formic acid in Water

B: 0.1% Formic acid in Acetonitrile

Gradient:	Time (min)	% B
	0	5
	0.7	5
	0.8	10
	3.5	25
	5	40

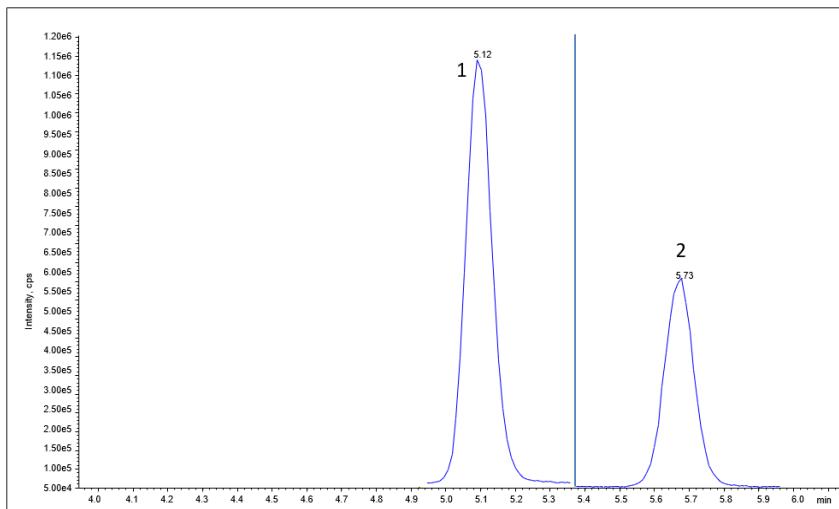
Flow Rate: 0.2 mL/min

Injection Volume: 5 μ L

Detector: SCIEX API 4500[™]

Sample: 1. Uracil
2. 5-Fluorouracil

Figure 1. Separation of Uracil and 5-Fluorouracil using a Kinetex 2.6 μ m PS C18 LC Column



App ID 25590



APPLICATIONS

Need a different column size or sample preparation format?

No problem! We have a majority of our available dimensions up on www.phenomenex.com, but if you can't find what you need right away, our super helpful Technical Specialists can guide you to the solution via our online chat portal www.phenomenex.com/LiveChat.

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

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

Belgium
t: +32 (0)2 503 4015 (French)
t: +32 (0)2 511 8666 (Dutch)
beinfo@phenomenex.com

Canada
t: +1 (800) 543-3681
info@phenomenex.com

China
t: +86 400-606-8099
cninfo@phenomenex.com

Denmark
t: +45 4824 8048
nordicinfo@phenomenex.com

Finland
t: +358 (0)9 4789 0063
nordicinfo@phenomenex.com

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

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

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

Ireland
t: +353 (0)1 247 5405
eireinfo@phenomenex.com

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

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

Mexico
t: 01-800-844-5226
tecnicomx@phenomenex.com

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

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

Norway
t: +47 810 02 005
nordicinfo@phenomenex.com

Portugal
t: +351 221 450 488
ptinfo@phenomenex.com

Singapore
t: +65 800-852-3944
sginfo@phenomenex.com

Spain
t: +34 91-413-8613
esinfo@phenomenex.com

Sweden
t: +46 (0)8 611 6950
nordicinfo@phenomenex.com

Switzerland
t: +41 (0)61 692 20 20
swissinfo@phenomenex.com

Taiwan
t: +866 (0) 0801-49-1246
twinfo@phenomenex.com

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

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

All other countries 
Corporate Office USA
t: +1 (310) 212-0555
info@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

BE-HAPPY™
guarantee

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.
www.phenomenex.com/behappy

Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions, which may be viewed at www.phenomenex.com/TermsAndConditions.

Trademarks

Strata and Kinetex are registered trademarks and Be-Happy and SecurityGuard are trademarks of Phenomenex. API 4500 trademark of AB SCIEX Pte. Ltd. AB SCIEX® is being used under license.

FOR RESEARCH USE ONLY. Not for use in clinical diagnostic procedures.

© 2019 Phenomenex, Inc. All rights reserved.