

LUNA™

Polar Pesticides

Discover

# Luna Polar Pesticides HPLC Column

**Fast and Robust Anionic and Cationic  
Pesticides Analysis on a Single Column**

- Fast equilibration
- Excellent retention
- Versatile selectivity



# Luna Polar Pesticides HPLC Column



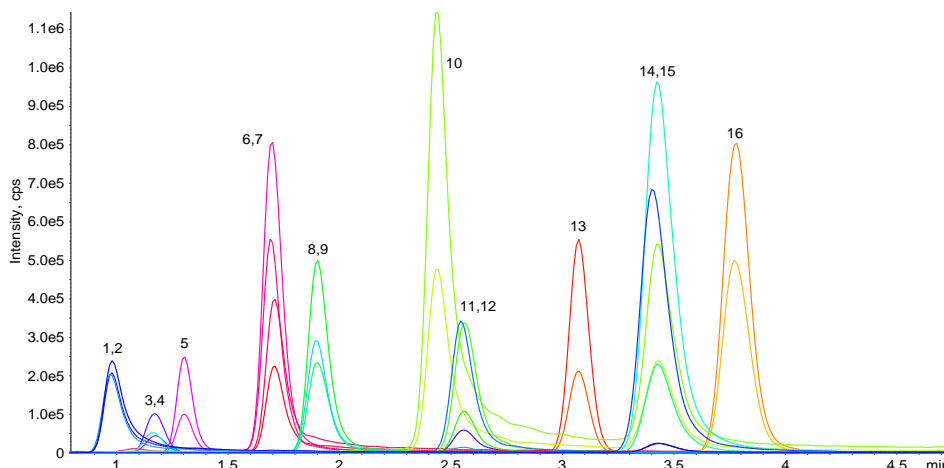
Unique selectivity for robust analysis of underivatized polar pesticides from food and environmental matrices. Fast column conditioning, excellent analyte retention, versatile selectivity, and great peak symmetry.

## Features and Benefits

Material Characteristics		Benefit
<b>Morphology</b>	Fully Porous	High Sample Loading
<b>Phase</b>	Proprietary Polar	<ul style="list-style-type: none"> <li>• Unique selectivity</li> <li>• Retention of polar analytes</li> <li>• Fast equilibration</li> <li>• 100 % Aqueous stability</li> <li>• 100 % Organic stability</li> <li>• Versatility with multi-mode retention</li> </ul>
<b>Endcapping</b>	Unendcapped	
<b>Pore Size</b>	100 Å	
<b>Carbon Load</b>	8 %	Great balance of polar and nonpolar retention
<b>Surface Area</b>	380 m <sup>2</sup> /g	Improved analyte interaction with stationary phase



## Underivatized Anionic Pesticides Analysis on a Luna Polar Pesticides HPLC Column



## LC Conditions

**Column:** Luna 3 µm Polar Pesticides  
**Dimensions:** 100 x 2.1 mm  
**Part No.:** [00D-4798-AN](#)  
**Guard:** SecurityGuard™ ULTRA Cartridge: [AJ0-8789](#)  
**Mobile Phase:** A: 0.3 % Formic Acid in Water  
 B: 0.3 % Formic Acid in Acetonitrile  
**Gradient:**

Time (min)	%B
0	2
0.5	2
6.0	20
7.0	90
9.0	90
9.1	2
12	2

**Flow Rate:** 0.3 mL/min  
**Injection Volume:** 1 µL  
**Temperature:** 40 °C  
**Detection:** MRM  
**Detector:** SCIEX® 7500

## MRM Conditions

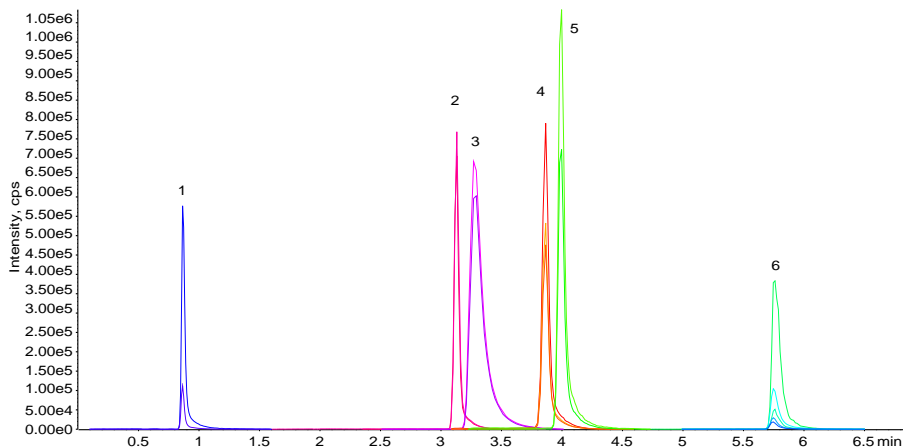
**Polarity:** Negative  
**Gas Temperature:** 450 °C  
**GS1:** 40 psi  
**GS2:** 30 psi  
**CUR:** 40 psi  
**IS:** -4500 V

### Analyte

- |   |                         |                            |                    |
|---|-------------------------|----------------------------|--------------------|
| 1. AMPA                                   | 5. Glufosinate          | 9. N-Acetyl-Glufosinate-D3 | 13. Chlorate       |
| 2. AMPA- <sup>13</sup> C, <sup>15</sup> N | 6. MPPA                 | 10. Phosphonic Acid        | 14. Fosetyl Al-D15 |
| 3. Maleic Hydrazide-D2                    | 7. Glyphosate           | 11. Ethephon-D4            | 15. Fosetyl Al     |
| 4. Maleic Hydrazide                       | 8. N-Acetyl-Glufosinate | 12. Ethephon               | 16. Perchlorate    |



## Underivatized Cationic Pesticides Analysis on a Luna Polar Pesticides HPLC Column



### LC Conditions

**Column:** Luna 3  $\mu$ m Polar Pesticides  
**Dimensions:** 100 x 2.1 mm  
**Part No.:** [00D-4798-AN](#)  
**Guard:** SecurityGuard™ ULTRA Cartridge: [AJ0-8789](#)  
**Mobile Phase:** A: 100 mM Ammonium Formate in Water, adjust pH to 3 with Formic Acid  
 B: Acetonitrile  
**Gradient:**

Time (min)	%B
0	97
0.5	97
4.0	70
5.0	40
6.0	40
6.1	97
10	97

**Flow Rate:** 0.5 mL/min  
**Injection Volume:** 0.5  $\mu$ L  
**Temperature:** 40 °C  
**Experiment Type:** MRM  
**Detector:** SCIEX® 5500

### MRM Table

Peak No.	Analyte	RT (min)	Q1	Q2	DP	CE
1	Ethylthiourea	0.89	103	44	86	22
			103	86	84	26
2	Propamocarb	3.2	189	102	200	39
			189	74	200	48
3	Mepiquat	3.31	114	98	250	45
			114	70	180	45
4	Matrine	3.85	249	150	100	43
			249	110	100	46
			249	176	100	45
5	Oxamatrine	4.22	265	247	60	41
			265	205	60	41
			265	136	60	41
6	Paraquat	5.69	186	171	140	27
			186	77	140	60
			93	171	150	15
			93	77	150	31

### MRM Conditions

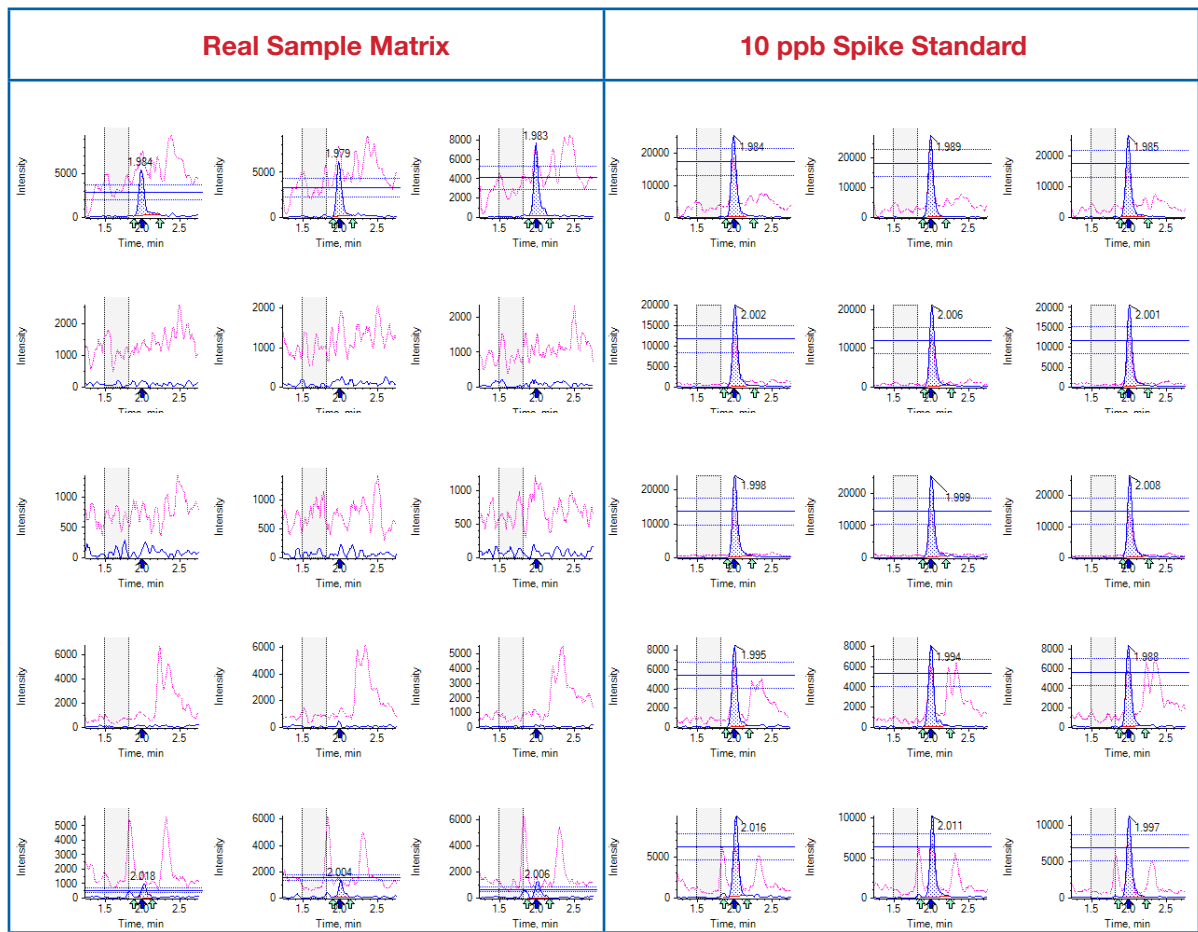
**Polarity:** Positive  
**Gas Temperature:** 450 °C  
**GS1:** 40 psi  
**GS2:** 30 psi  
**CUR:** 50 psi  
**IS:** 4500 V

“ The Luna Polar Pesticides LC column significantly reduced analysis time thanks to its fast re-equilibration! This column has improved our polar pesticides analyses. ”

Dr Giacomo Napolitano, PhD - Lab Manager - Lifeanalytics S.r.l.

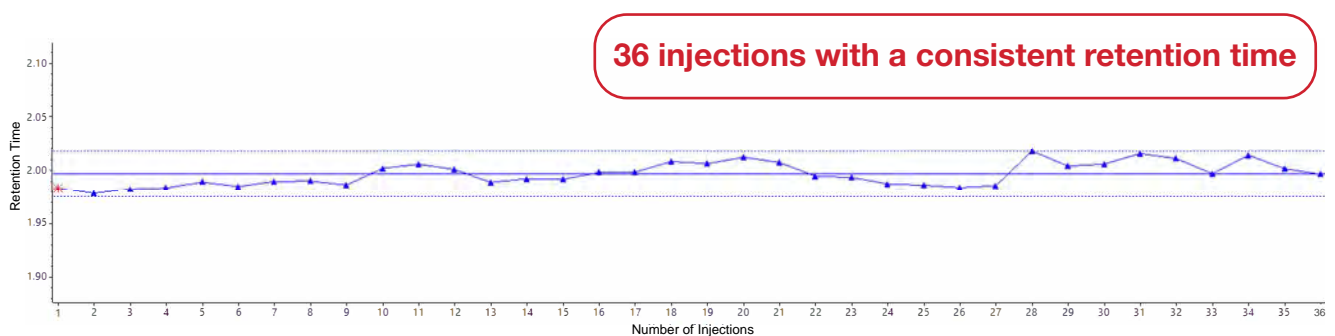
# Applications

## Glyphosate Recovery (10 ppb Spike Standard) in 5 Different Matrices (N=3)



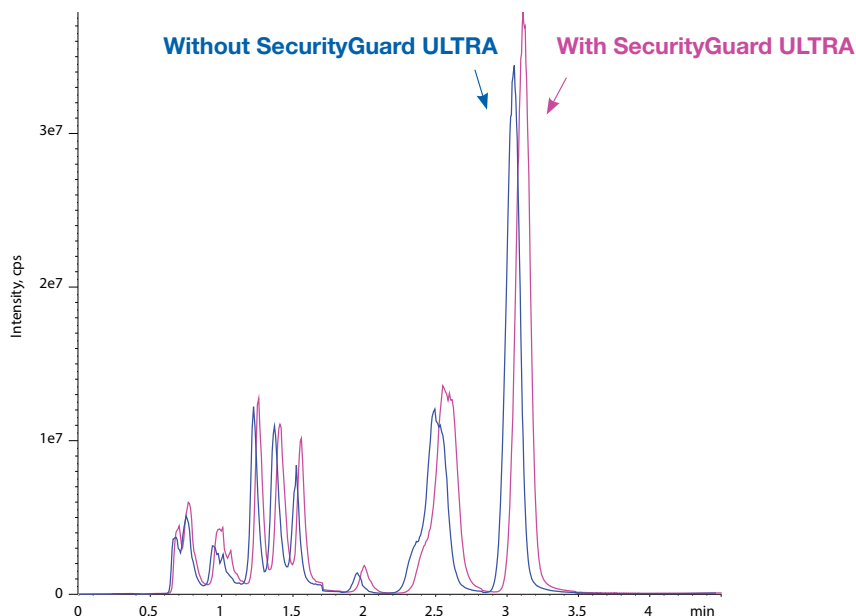
Matrix	Real Sample Matrix		10 ppb Spike Standard		
	Avg. Conc. (ppb)	% RSD	Avg. Conc. (ppb)	% RSD	% Recovery
Grain	3.27	14.7	14.46	2.32	111.9
Kiwi	0	0	10.07	3.95	100.7
Zucchini	0	0	10.75	3.99	107.5
Arugula	0	0	10.17	4.17	101.7
Soy	1.22	12.12	10.51	11.6	92.9

## Reproducible Retention of Challenging Analyte Glyphosate



# Increase Sensitivity by Adding SecurityGuard ULTRA

The SecurityGuard ULTRA system effectively traps contaminants and particulates increasing the column lifetime and enhancing performance.



## LC Conditions

**Column:** Luna™ 3 µm Polar Pesticides  
**Dimensions:** 100 x 2.1 mm  
**Part No.:** [00D-4798-AN](#)  
**Guard:** SecurityGuard ULTRA Cartridge: [AJO-8789](#)  
**Mobile Phase:** A: 0.3% Formic Acid in Water  
 B: 0.3% Formic Acid in Acetonitrile

Gradient	Time (min)	%B
	0	2
	0.5	2
	6.0	20
	7.0	90
	9.0	90
	9.1	2
	12	2

**Flow Rate:** 0.3 mL/min  
**Injection Volume:** 1 µL  
**Temperature:** 40 °C  
**Detector:** SCIEX® 7500

## Features and Benefits

1. Low dead volume prevents sensitivity loss
2. Maintains analyses' high-performance results
3. Minimizes costs and column waste



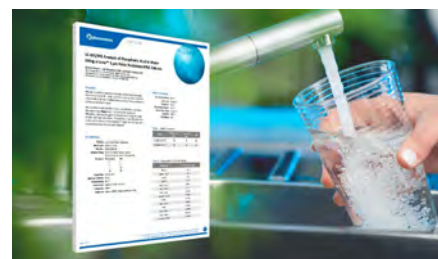
## Applications and Technical Notes



Efficient Approach for the Reliable Determination of Underivatized Anionic and Cationic Pesticides



Optimal Separation of Anionic Polar Pesticides in Fruits and Vegetables with Unique HPLC Column Selectivity



LC-MS/MS Analysis of Phosphonic Acid in Water Using a Luna 3 µm Polar Pesticides HPLC Column

# Ordering Information

## LC Columns

Luna 3 µm Analytical Columns (mm)						SecurityGuard™ ULTRA Cartridges†
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	150 x 3.0	3/pk
Polar Pesticides	<a href="#">00A-4798-AN</a>	<a href="#">00B-4798-AN</a>	<a href="#">00D-4798-AN</a>	<a href="#">00F-4798-AN</a>	<a href="#">00F-4798-YO</a>	<a href="#">AJ0-8789</a>

\*SecurityGuard ULTRA Cartridges require holder, Part No.: [AJ0-9000](#)

for 2.1 to 4.6 mm ID

## Sample Preparation Products

### roQ™ Extraction Kits

Extraction kits contain fifty easy-pour salt packets and fifty 50 mL stand-alone centrifuge tubes

Description	Unit	Part No.
<b>AOAC 2007.01 Method Extraction Kits</b>		
6.0g MgSO <sub>4</sub> , 1.5g NaOAc	50/pk	<a href="#">KSO-8911</a>
<b>EN 15662 Method Extraction Kits</b>		
4.0g MgSO <sub>4</sub> , 1.0g NaCl, 1.0g SCTD, 0.5g SCDS	50/pk	<a href="#">KSO-8909</a>
<b>Original Non-buffered Method Extraction Kits</b>		
4.0g MgSO <sub>4</sub> , 1.0g NaCl	50/pk	<a href="#">KSO-8910</a>
6.0g MgSO <sub>4</sub> , 1.5g NaCl	50/pk	<a href="#">KSO-8912</a>

### roQ dSPE Kits

dSPE kits contain pre-weighed sorbents/salts inside 2 mL or 15 mL centrifuge tubes











Description	Unit	Part No.
<b>2 mL dSPE Kits</b>		
150 mg MgSO <sub>4</sub> , 25 mg PSA, 25 mg C18E	100/pk	<a href="#">KSO-9504</a>
150 mg MgSO <sub>4</sub> , 25 mg PSA, 2.5 mg GCB	100/pk	<a href="#">KSO-9505</a>
150 mg MgSO <sub>4</sub> , 25 mg PSA, 7.5 mg GCB	100/pk	<a href="#">KSO-9506</a>
150 mg MgSO <sub>4</sub> , 25 mg PSA	100/pk	<a href="#">KSO-9503</a>
150 mg MgSO <sub>4</sub> , 50 mg PSA, 50 mg C18E, 50 mg GCB	100/pk	<a href="#">KSO-9514</a>
150 mg MgSO <sub>4</sub> , 50 mg PSA, 50 mg C18E	100/pk	<a href="#">KSO-9512</a>
150 mg MgSO <sub>4</sub> , 50 mg PSA, 50 mg GCB	100/pk	<a href="#">KSO-9513</a>
150 mg MgSO <sub>4</sub> , 50 mg PSA	100/pk	<a href="#">KSO-9511</a>
<b>15 mL dSPE Kits</b>		
900 mg MgSO <sub>4</sub> , 150 mg PSA, 150 mg C18E	100/pk	<a href="#">KSO-9508</a>
900 mg MgSO <sub>4</sub> , 150 mg PSA, 15 mg GCB	100/pk	<a href="#">KSO-9509</a>
900 mg MgSO <sub>4</sub> , 150 mg PSA, 45 mg GCB	100/pk	<a href="#">KSO-9510</a>
900 mg MgSO <sub>4</sub> , 150 mg PSA	100/pk	<a href="#">KSO-9507</a>
1200 mg MgSO <sub>4</sub> , 400 mg PSA, 400 mg C18E, 400 mg GCB	100/pk	<a href="#">KSO-9518</a>
1200 mg MgSO <sub>4</sub> , 400 mg PSA, 400 mg C18E	100/pk	<a href="#">KSO-9516</a>
1200 mg MgSO <sub>4</sub> , 400 mg PSA, 400 mg GCB	100/pk	<a href="#">KSO-9517</a>
1200 mg MgSO <sub>4</sub> , 400 mg PSA	100/pk	<a href="#">KSO-9515</a>

### roQ Extraction Salt Packets

Salt packets only. Centrifuge tubes not included.

Description	Unit	Part No.
<b>AOAC 2007.01 Method Extraction Packets</b>		
6.0g MgSO <sub>4</sub> , 1.5g NaOAc	50/pk	<a href="#">KSO-9043</a>
<b>EN 15662 Method Extraction Packets</b>		
4.0g MgSO <sub>4</sub> , 1.0g NaCl, 1.0g SCTD, 0.5g SCDS	50/pk	<a href="#">KSO-9041</a>
<b>Original Non-Buffered Method Extraction Packets</b>		
4.0g MgSO <sub>4</sub> , 1.0g NaCl	50/pk	<a href="#">KSO-9042</a>
6.0g MgSO <sub>4</sub> , 1.5g NaCl	50/pk	<a href="#">KSO-9044</a>

### Verex™ Filter Vial

Description	Pore Size	Part No.	Unit
Verex Filter Vial-RC (Regenerated Cellulose)	 0.20 µm	<a href="#">ARO-F103-12</a>	100/pk
	 0.45 µm	<a href="#">ARO-F203-12</a>	100/pk
Verex Filter Vial-PTFE (Polytetrafluoroethylene)	 0.20 µm	<a href="#">ARO-F102-12</a>	100/pk
	 0.45 µm	<a href="#">ARO-F202-12</a>	100/pk
Verex Filter Vial-NY (Nylon)	 0.20 µm	<a href="#">ARO-F107-12</a>	100/pk
	 0.45 µm	<a href="#">ARO-F207-12</a>	100/pk
Verex Filter Vial-PES (Polyethersulfone)	 0.20 µm	<a href="#">ARO-F108-12</a>	100/pk
	 0.45 µm	<a href="#">ARO-F208-12</a>	100/pk
Verex Filter Vial-PVDF (Polyvinylidene Fluoride)	 0.20 µm	<a href="#">ARO-F106-12</a>	100/pk
	 0.45 µm	<a href="#">ARO-F206-12</a>	100/pk

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GUARANTEE

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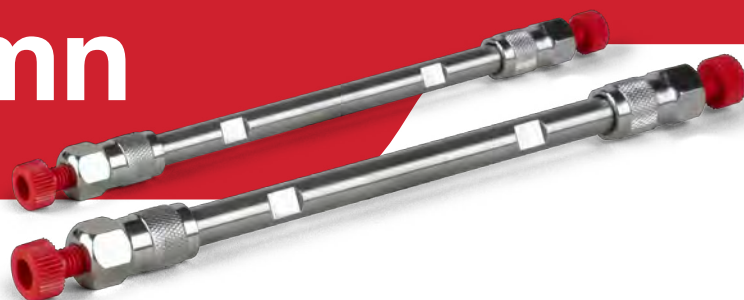
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**Need help with method optimization or product recommendations?  
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Discover



# Luna Polar Pesticides HPLC Column



Catalog_no	Description_1	Description_2	UOM	LIST_2023	Promo Discount (%) in August
00A-4798-AN	Luna 3 $\mu$ m Polar Pesticides	LC Column 30 x 2.1 mm	Ea	\$800.00	15.00%
00B-4798-AN	Luna 3 $\mu$ m Polar Pesticides	LC Column 50 x 2.1 mm	Ea	\$870.00	15.00%
00D-4798-AN	Luna 3 $\mu$ m Polar Pesticides	LC Column 100 x 2.1 mm	Ea	\$916.00	15.00%
00F-4798-AN	Luna 3 $\mu$ m Polar Pesticides	LC Column 150 x 2.1 mm	Ea	\$960.00	15.00%
00F-4798-Y0	Luna 3 $\mu$ m Polar Pesticides	LC Column 150 x 3.0 mm	Ea	\$999.00	15.00%
AJ0-8789	SecurityGuard ULTRA Cartridges	Luna Polar Pesticide	3/Pk	\$532.00	15.00%



[www.phenomenex.com](http://www.phenomenex.com)

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

#### Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions, which may be viewed at [www.phenomenex.com/phx-terms-and-conditions-of-sale](http://www.phenomenex.com/phx-terms-and-conditions-of-sale).

#### Trademarks

Verex, Luna, SecurityGuard, roQ, and BE-HAPPY are trademarks of Phenomenex. SCIEX is a registered trademark of AB SCIEX Pte. Ltd.

#### Disclaimer

Comparative separations may not be representative of all applications.

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP, or ULTRA holders, or to any cartridges

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