

Discover

Luna Polar Pesticides HPLC Column

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

- Fast equilibration
- Excellent retention
- Versatile selectivity



Column mentioned in
QuPPE Method v.12.2

Luna Polar Pesticides HPLC Column

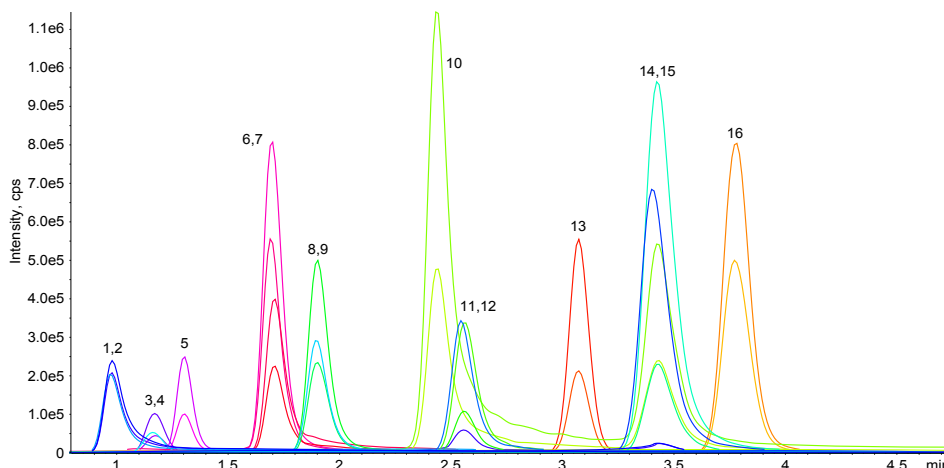
Luna Polar Pesticides HPLC column is featured as the analytical column used in the latest version of the QuPPE method (v.12.2). This column features a unique selectivity for robust analysis of underivatized polar pesticides from food and environmental matrices along with fast column conditioning, excellent analyte retention, versatile selectivity, and great peak symmetry.

Features and Benefits

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

Luna Polar Pesticides does not require passivation.
The column's unique and enhanced selectivity allows optimal retention of anionic pesticides.

Underivatized Anionic Pesticides Analysis on a Luna Polar Pesticides HPLC Column



LC Conditions

Column: Luna 3µm 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

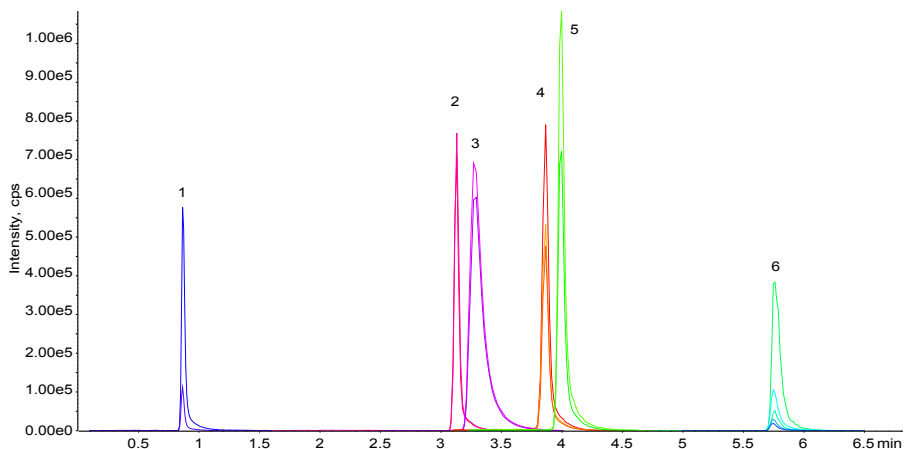
Polarity: Negative
Gas Temperature: 450 °C
GS1: 40 psi
GS2: 30 psi
CUR: 40 psi
IS: -4500 V

Analyte

- | | | | |
|---|-------------------------|----------------------------|--------------------|
| 1. AMPA | 5. Glufosinate | 9. N-Acetyl-Glufosinate-D3 | 13. Chlorate |
| 2. AMPA- ¹³ C, ¹⁵ 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



App ID 27565

LC Conditions

Column: Luna 3 μ 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 μ 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

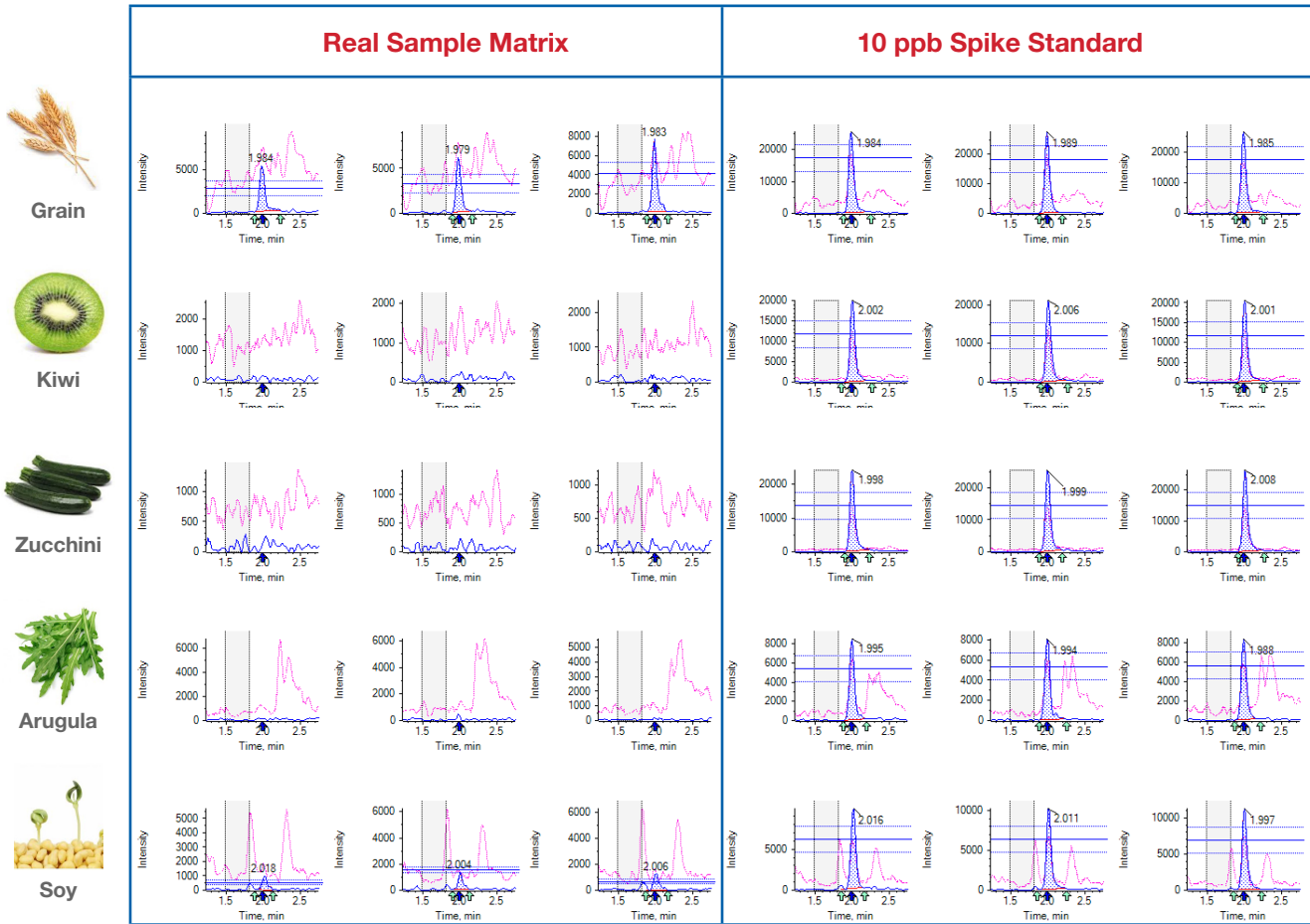
Polarity: Positive
Gas Temperature: 450 °C
GS1: 40 psi
GS2: 30 psi
CUR: 50 psi
IS: 4500 V

“ 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.

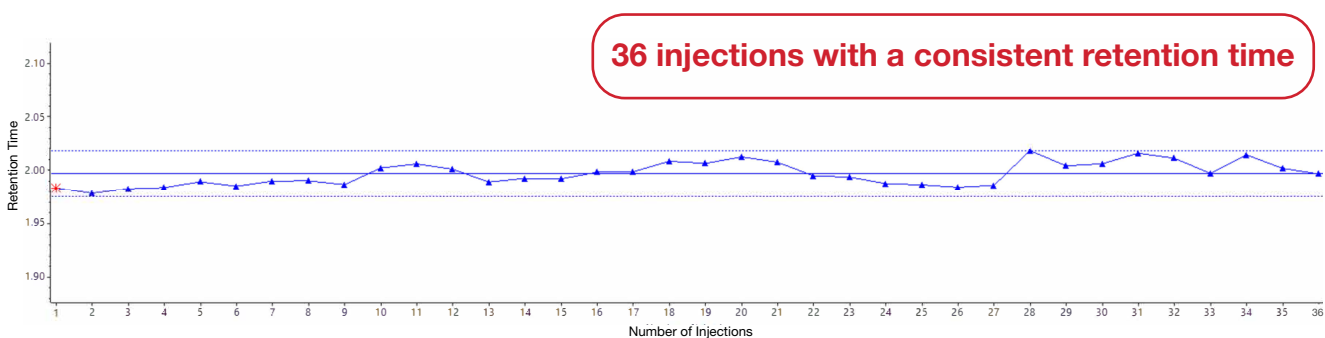
Applications

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



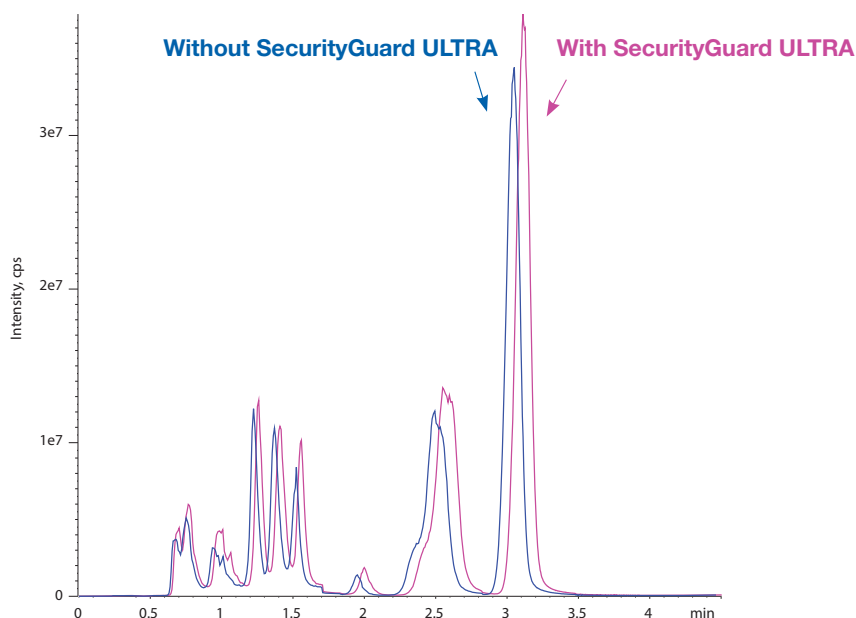
Matrix	Real Sample Matrix		10 ppb Spike Standard		
	Avg. Conc. (ppb)	% RSD	Avg. Conc. (ppb)	% RSD	% Recovery
Grain	3.27	14.7	14.46	2.32	111.9
Kiwi	0	0	10.07	3.95	100.7
Zucchini	0	0	10.75	3.99	107.5
Arugula	0	0	10.17	4.17	101.7
Soy	1.22	12.12	10.51	11.6	92.9

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

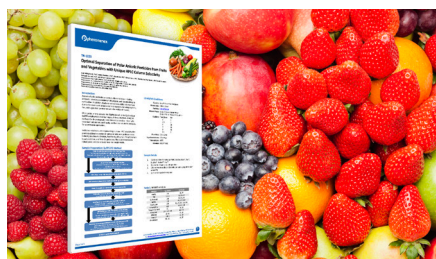
1. Low dead volume prevents sensitivity loss
2. Maintains analyses' high-performance results
3. Minimizes costs and column waste



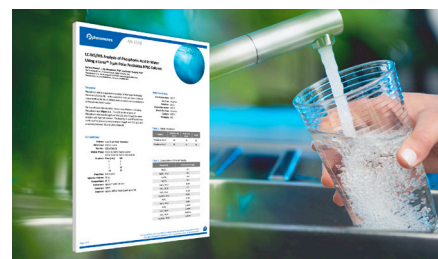
Applications and Technical Notes



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	00A-4798-AN	00B-4798-AN	00D-4798-AN	00F-4798-AN	00F-4798-YO	AJ0-8789

*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.
AOAC 2007.01 Method Extraction Kits		
6.0g MgSO ₄ , 1.5g NaOAc	50/pk	KS0-8911
EN 15662 Method Extraction Kits		
4.0g MgSO ₄ , 1.0g NaCl, 1.0g SCTD, 0.5g SCDS	50/pk	KS0-8909
Original Non-buffered Method Extraction Kits		
4.0g MgSO ₄ , 1.0g NaCl	50/pk	KS0-8910
6.0g MgSO ₄ , 1.5g NaCl	50/pk	KS0-8912

roQ dSPE Kits

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











Description	Unit	Part No.
2 mL dSPE Kits		
150 mg MgSO ₄ , 25 mg PSA, 25 mg C18E	100/pk	KS0-9504
150 mg MgSO ₄ , 25 mg PSA, 2.5 mg GCB	100/pk	KS0-9505
150 mg MgSO ₄ , 25 mg PSA, 7.5 mg GCB	100/pk	KS0-9506
150 mg MgSO ₄ , 25 mg PSA	100/pk	KS0-9503
150 mg MgSO ₄ , 50 mg PSA, 50 mg C18E, 50 mg GCB	100/pk	KS0-9514
150 mg MgSO ₄ , 50 mg PSA, 50 mg C18E	100/pk	KS0-9512
150 mg MgSO ₄ , 50 mg PSA, 50 mg GCB	100/pk	KS0-9513
150 mg MgSO ₄ , 50 mg PSA	100/pk	KS0-9511
15 mL dSPE Kits		
900 mg MgSO ₄ , 150 mg PSA, 150 mg C18E	100/pk	KS0-9508
900 mg MgSO ₄ , 150 mg PSA, 15 mg GCB	100/pk	KS0-9509
900 mg MgSO ₄ , 150 mg PSA, 45 mg GCB	100/pk	KS0-9510
900 mg MgSO ₄ , 150 mg PSA	100/pk	KS0-9507
1200 mg MgSO ₄ , 400 mg PSA, 400 mg C18E, 400 mg GCB	100/pk	KS0-9518
1200 mg MgSO ₄ , 400 mg PSA, 400 mg C18E	100/pk	KS0-9516
1200 mg MgSO ₄ , 400 mg PSA, 400 mg GCB	100/pk	KS0-9517
1200 mg MgSO ₄ , 400 mg PSA	100/pk	KS0-9515

roQ Extraction Salt Packets

Salt packets only. Centrifuge tubes not included.

Description	Unit	Part No.
AOAC 2007.01 Method Extraction Packets		
6.0g MgSO ₄ , 1.5g NaOAc	50/pk	KS0-9043
EN 15662 Method Extraction Packets		
4.0g MgSO ₄ , 1.0g NaCl, 1.0g SCTD, 0.5g SCDS	50/pk	KS0-9041
Original Non-Buffered Method Extraction Packets		
4.0g MgSO ₄ , 1.0g NaCl	50/pk	KS0-9042
6.0g MgSO ₄ , 1.5g NaCl	50/pk	KS0-9044

Verex™ Filter Vial

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

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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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