

Maximize Purity, Throughput, and Yield

Agilent InfinityLab preparative LC columns



Unleash The Power of Our Complete Purification Workflow

Agilent InfinityLab HPLC purification solutions offer high performance for analytical to preparative scale workflows. Every component of the Agilent InfinityLab family is designed to work together to help you continuously improve your workflow, increasing productivity while reducing operational costs.

Together with InfinityLab LC purification systems and software, the InfinityLab LC columns and supplies family can help you achieve your purification goals.



Introducing the **InfinityLab preparative HPLC column** family. InfinityLab preparative HPLC columns are optimized to help you achieve your small molecule separations reliably with seamless scale-up and long column lifetimes.



Agilent biocolumns for preparative LC enable you to precisely scale separations of proteins, peptides, and other large molecules—from PLRP-S with high stability under demanding conditions, to ZORBAX 300StableBond for a larger pore size on proven ZORBAX media, to PL-SAX and PL-SCX for robust ion-exchange columns.



Agilent analytical columns are available in a range of options for small molecule and bio-molecule separations to support analytical method development and screening.



Preparative chromatography calls for large volumes of solvent that need careful containment. **Agilent InfinityLab supplies** like Stay Safe caps and waste cans make solvent handling more convenient.



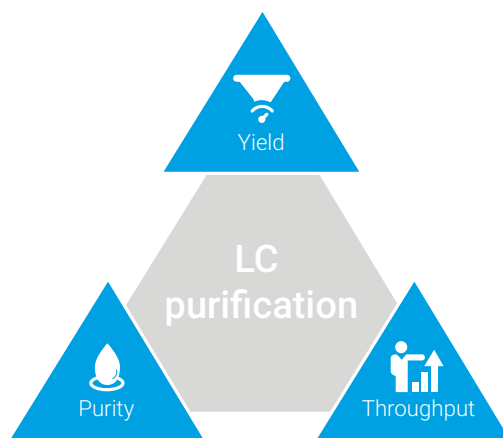
Purify with Confidence

For any purification project, there are three possible objectives: purity, yield, and throughput. Choosing the right column to meet your objectives will ensure consistent results and scalability. It will also save you time, supplies, and valuable sample.

Agilent InfinityLab preparative LC columns

Agilent can help you rise to the challenge. Whether you are driving throughput for many samples or maximizing the yield for just a few, Agilent InfinityLab preparative LC columns for small molecule separations deliver:

- **Robustness and reliability.** Save on cost-per-sample with long column lifetimes for predictable performance, day after day.
- **Seamless scalability.** Easily move from analytical to 4 and 5 μm preparative scale.
- **A diverse portfolio.** Optimize your separations with a range of media and chemistries for high-throughput to high-yield workflows.



Robustness you can count on

Long column lifetimes reduce costs and minimize rework. InfinityLab preparative LC columns offer excellent bed stability and lifetime by using our proprietary packing process for robust, predictable performance.

Lifetime Data

Conditions

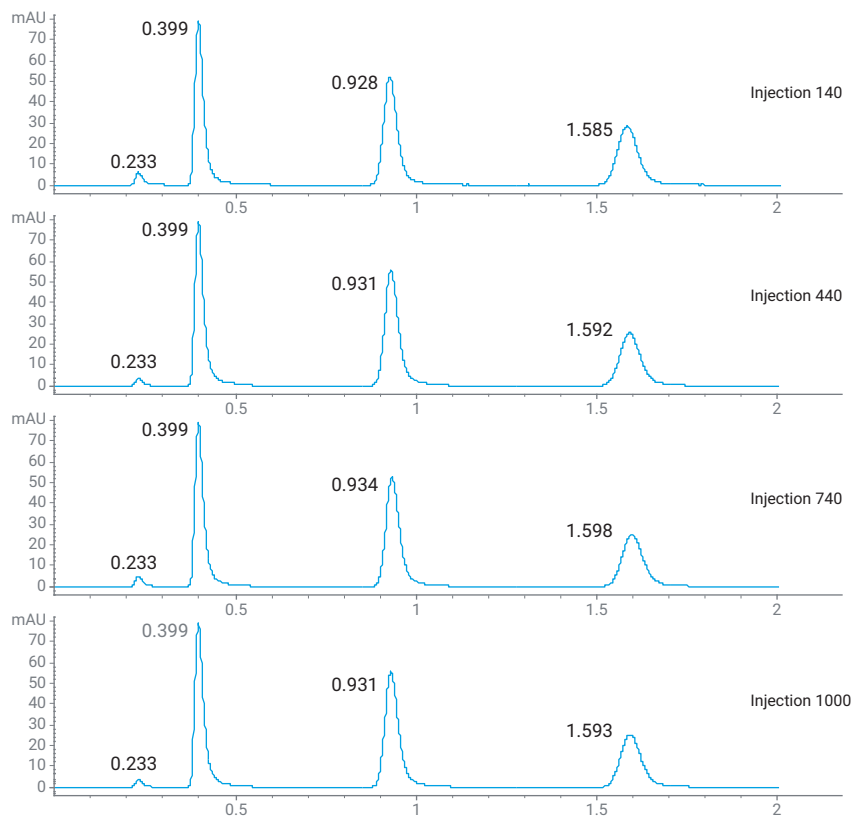
Column: Agilent InfinityLab Pursuit XRs
C18, 30 x 50 mm, 5 μ m
(PN INF6000050X300)

Flow Rate: 80 mL/min

Mobile Phase: 60:40 Acetonitrile: water

Sample:

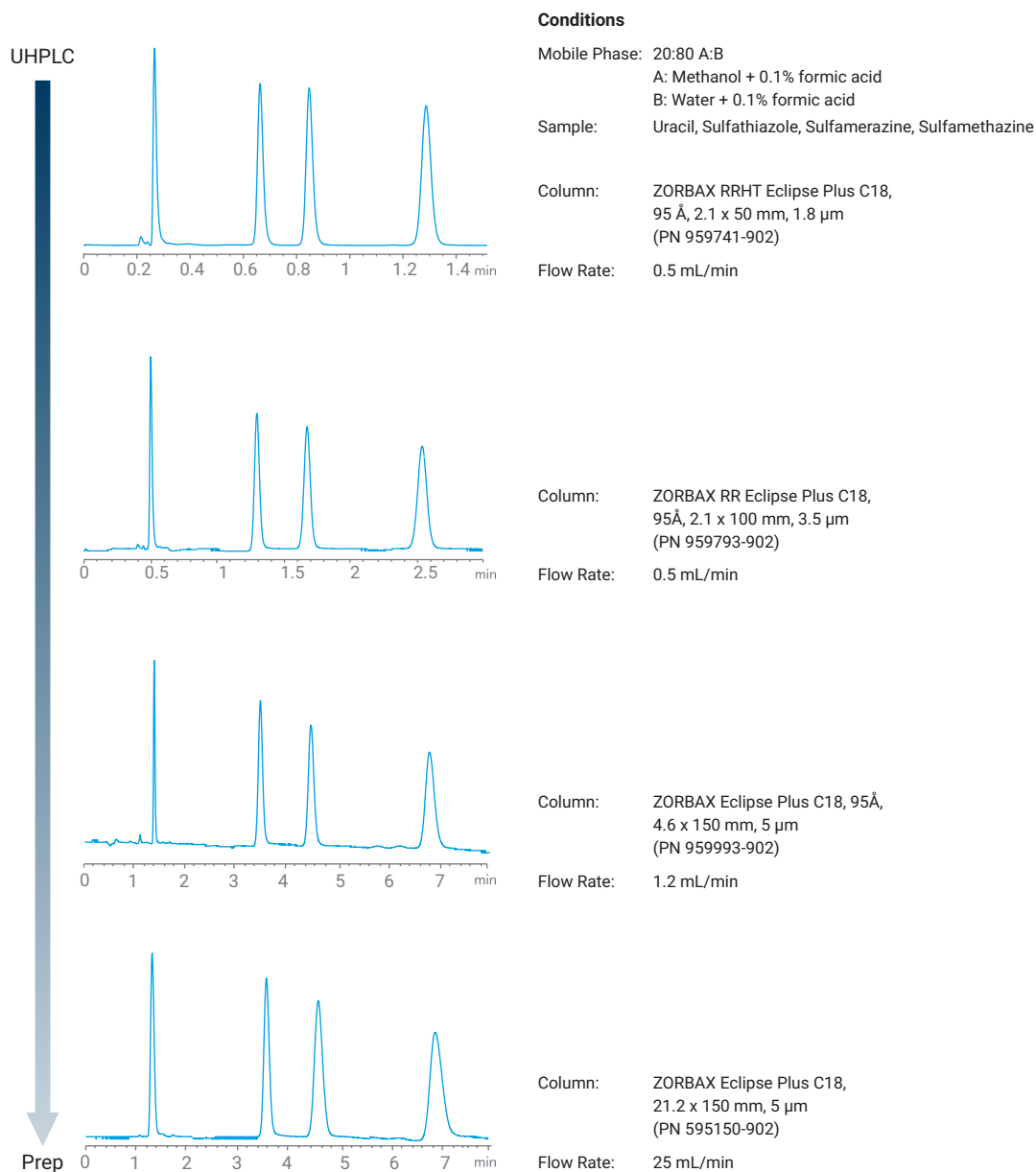
1. Uracil, 4 mg/mL
2. Phenol, 40 mg/mL
3. 4-chloronitrobenzene, 5 mg/mL
4. Naphthalene, 8 mg/mL



Predictable, seamless method scale-up

To minimize sample and solvent waste, purification workflows typically start with analytical method development or screening. When it is time to scale up to preparative LC, reliability and predictability are key.

With InfinityLab preparative LC columns, you'll achieve the same robustness, reliability, quality, and separation power as Agilent analytical columns. That means you can scale your method without surprises.



Predictable and seamless method scale-up from 1.8 µm analytical scale to 5 µm preparative scale without loss in resolution.



Optimize your purification to meet your goals

Scientists performing preparative LC have two distinct objectives:

High throughput



- Target: main component capture
- Purifying many different samples
 - Collecting small amounts of material

High yield for bulk purification



- Target: main component or impurity separation
- Purifying one sample
 - Collecting significant amounts of material

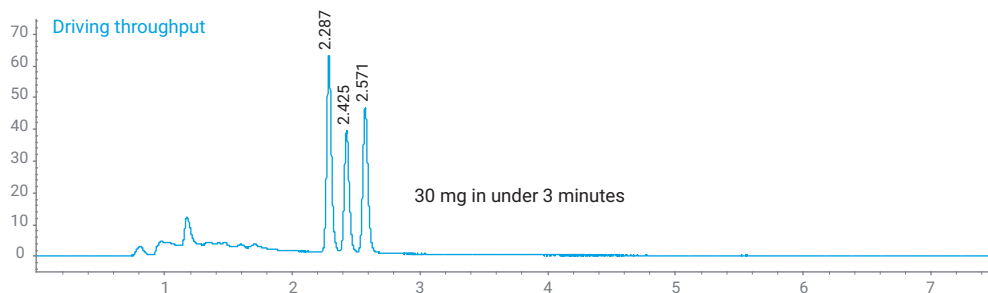
Agilent InfinityLab preparative LC columns enable you to tailor your method to suit your objectives

Preparative LC Column	Purification Goal	Solution
Agilent InfinityLab Poroshell 120 columns	Speed and efficiency	InfinityLab Poroshell 120 preparative columns deliver higher performance at higher flow rates—without sacrificing loadability—when resolution and speed are most critical.
Agilent InfinityLab Pursuit XRs columns	High yield for bulk purification	With its high surface area and carbon load, InfinityLab Pursuit XRs offers excellent loadability and retention so you can purify more product per injection.
Agilent InfinityLab ZORBAX columns	Optimized separation	InfinityLab ZORBAX preparative columns scale from our most popular ZORBAX phases, with chemistries in a range of dimensions. That means you can optimize your separations for either high-throughput or bulk purification workflows.

Curcuminoids separated in two ways

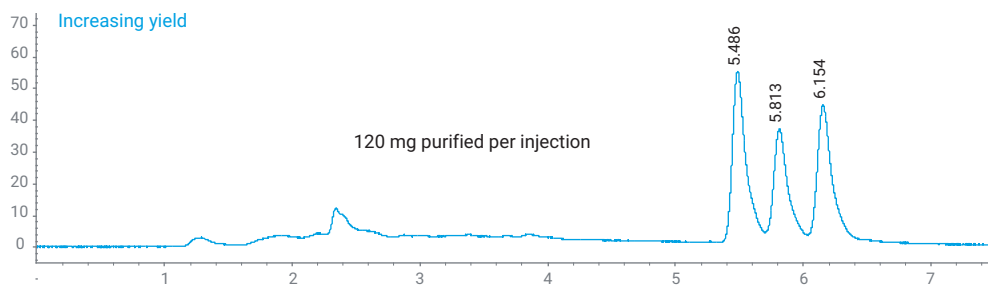
Analysis of turmeric extract in 2:1 Ethanol: Water

InfinityLab Poroshell 120 preparative columns maximize performance at higher flow rates while maintaining loadability.



Conditions		Injection	
Instrument:	Agilent 1290 Infinity II preparative LC system	Volume:	500 μ L
Preparative Column:	InfinityLab Poroshell 120 HPH-C18, 21.2 x 150 mm, 4 μ m (PN 670150-702)	Wavelength:	425 nm
Flow Rate:	37.5 mL/min	Mobile Phase:	A: Water + 0.1% formic acid B: Acetonitrile + 0.1% formic acid
		Gradient:	50–70% B in 5 min

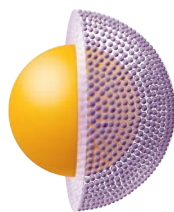
Pursuit XRs columns, with their high surface area and carbon load, allow more sample to be purified per injection.



Conditions		Injection	
Instrument:	Agilent 1290 Infinity II preparative LC system	Volume:	2000 μ L
Preparative Column:	InfinityLab Pursuit XRs C18, 30 x 150 mm, 5 μ m (PN INF6000150X300)	Wavelength:	425 nm
Flow Rate:	42.0 mL/min	Mobile Phase:	A: Water + 0.1% formic acid B: Acetonitrile + 0.1% formic acid
		Gradient:	50–70% B in 9 min

Sample:

1. Bisdemethoxycurcumin
2. Demethoxycurcumin
3. Curcumin



Want to learn more about superficially porous particle prep columns?

Download these resources and discover the power of InfinityLab Poroshell 120 in preparative LC.

Application note: [Developing fast purification methods \(5994-3518en\)](#)

ROI white paper: [Translating efficiency gains into greater ROI \(5994-4308en\)](#)

Selecting the right preparative LC column

Step 1: Choose your purification environment



**High
throughput**

Start with InfinityLab Poroshell 120 preparative LC columns

- Higher speed and efficiency with superficially porous particle technology compared to totally porous particle columns
- Scalable from sub-2 μm analytical to 4 μm preparative in 21.2 mm id



**Bulk
purification**

Start with InfinityLab Pursuit XRs preparative LC columns

- Highest surface area and carbon load for resolution and maximum loadability
- Scalable from 3 μm HPLC to 5 μm preparative in 21.2 and 30 mm id



Need a different dimension or selectivity?

Choose InfinityLab ZORBAX preparative LC columns

- Higher surface area than InfinityLab Poroshell 120; suitable for many workflows
- Scalable from sub-2 to 5 μm preparative scale in 21.2 mm id



Step 2: Determine your requirements and set-up

Column Internal Diameter	Analytical	Semipreparative and Preparative			
2.1 mm	0.4–0.6 mL/min				
3.0 mm	0.5–1 mL/min				
4.6 mm	1–2 mL/min				
9.4 or 10 mm		4–10 mL/min			
21.2 mm			18–42 mL/min		
30 mm				34–85 mL/min	
50 mm					94–236 mL/min
Purification range (mg)	1–15	7–70	30–300	64–640	180–1800
Instrumentation	1220/1260/1290 Infinity II analytical-scale LC purification systems 1260 Infinity II preparative LC systems 1290 Infinity II preparative LC systems				

Flow range extensions made possible by exchangeable pump heads
 InfinityLab preparative LC columns portfolio



1220/1260/1290 Infinity II analytical-scale LC purification systems



1260 Infinity II preparative LC systems



1290 Infinity II preparative LC systems

Ordering information

Agilent's portfolio of InfinityLab preparative LC columns are optimized for improved column lifetime and performance. To shop now, visit www.agilent.com/chem/prepcolumns

InfinityLab preparative LC column specifications

Objective	Phase	Pore Size	pH Range	Endcapped	Carbon Load	Surface Area	Benefits and Applications
Throughput	Poroshell 120 SB-C18	120 Å	1.0–8.0	No	9%	130 m ² /g	Best for low pH
	Poroshell 120 HPH-C18	100 Å	2.0–11.0	Double	Proprietary	95 m ² /g	Best for high pH
Alternate Selectivity for High Throughput or Yield	ZORBAX Eclipse Plus C18	95 Å	2.0–9.0	Double	9%	160 m ² /g	General purpose starting point similar selectivity to HPH-C18
	ZORBAX Eclipse Plus C8	95 Å	2.0–9.0	Double	7%	160 m ² /g	Lower retention of hydrophobic analytes vs C18
	ZORBAX SB C18	80 Å	0.8–8.0	No	10%	180 m ² /g	Best for low pH
	ZORBAX SB C8	80 Å	1.0–8.0	No	6%	180 m ² /g	Lower retention of hydrophobic analytes vs C18
	ZORBAX Eclipse Plus Phenyl-Hexyl	95 Å	2.0–8.0	Double	9%	160 m ² /g	Alternate selectivity for aromatic compounds
Yield	Pursuit XRs C18	100 Å	1.5–10.0	Yes	22%	440 m ² /g	Maximum loadability
	Pursuit XRs C8	100 Å	1.5–10.0	Yes	15%	440 m ² /g	Maximum loadability; lower retention of hydrophobic analytes vs C18
	Pursuit XRs Diphenyl	100 Å	1.5–7.5	Yes	14.6%	440 m ² /g	Maximum loadability; alternate selectivity for aromatic compounds

InfinityLab Pursuit XRs preparative LC columns for bulk purifications

Size (mm id vs L)	C18	C8	Diphenyl
21.2 x 50	INF6000050X212	INF6010050X212	INF6020050X212
21.2 x 100	INF6000100X212	INF6010100X212	INF6020100X212
21.2 x 150	INF6000150X212	INF6010150X212	INF6020150X212
21.2 x 250	INF6000250X212	INF6010250X212	INF6020250X212
30 x 50	INF6000050X300	INF6010050X300	
30 x 100	INF6000100X300	INF6010100X300	
30 x 150	INF6000150X300	INF6010150X300	
30 x 250	INF6000250X300	INF6010250X300	

InfinityLab Poroshell 120 preparative LC columns for high throughput purifications

Size (mm id vs L)	SB-C18	HPH-C18
21.2 x 50	670050-902	670050-702
21.1 x 150	670150-902	670150-702

InfinityLab ZORBAX preparative LC columns for high throughput and bulk purifications

Size (mm id vs L)	Eclipse Plus C18	SB-C18	SB-C8	Eclipse Plus Phenyl-Hexyl	Eclipse Plus C8
21.2 x 50	595050-902	585050-902	585050-906	595050-912	595050-906
21.2 x 100	595100-902	585100-902	585100-906	595100-912	595100-906
21.2 x 150	595150-902	585150-902	585150-906	595150-912	595150-906
21.2 x 250	595250-902	585250-902	585250-906	595250-912	595250-906

Agilent 5 µm semipreparative HPLC columns for small scale purification

	Size (mm id vs L)	Eclipse XDB C18	Eclipse XDB C8	SB-C18*	StableBond Phenyl	SB-C3	SB-CN		
ZORBAX	9.4 x 250	990967-202	990967-206	880975-202	880975-212	880975-209	880975-205		
		Rx-SIL	Original CN (NP)	Original NH2 (NP)	Original SIL (NP)	Original C18	Original C8	Rx C18	Rx C8
	9.4 x 250	880975-201	880952-205	880952-208	880952-201	880952-202	880952-206	880967-202	880967-201
		XR _s C18	XR _s C8	XR _s Diphenyl	Pursuit C18	Pursuit Diphenyl	Pursuit PFP		
Pursuit	10 x 50	A6000050X100			A3000050X100				
	10 x 100			A6020100X100	A3000100X100				
	10 x 150	A6000150X100	A6010150X100		A3000150X100		A3050150X100		
	10 x 250	A6000250X100		A6020250X100	A3000250X100	A3040250X100	A3050250X100		
		Amide-C18	C18-A	C18-Ether	C8-A	C8-Ether	NH ₂	Si-A	
Polaris	10 x 100		A2000100X100						
	10 x 150		A2000150X100					A2003150X100	
	10 x 250	A2006250X100	A2000250X100	A2020250X100	A2010250X100	A2030250X100	A2013250X100		
	Guard Column	A2006050G100	A2000050G100	A2020050G100	A2010050G100	A2030050G100	A2013050G100	A2003050G100	

*SB-C18 also available in 50–150 mm lengths: 84975-202, 84975-202, 883975-202

Popular alternative choices for Agilent 5 µm semipreparative/preparative HPLC columns

	Size (mm id vs L)	Eclipse XDB C18	Eclipse XDB C8	SB-Aq	Bonus-RP	Rx-C8	Extend C18
ZORBAX*	21.2 x 50	970050-902	970050-906	870050-914	868050-901	870050-906	770050-902
	21.2 x 100	970100-902	970100-906	870100-914	868100-901	870100-906	770100-902
	21.2 x 150	970150-902	970150-906	870150-914	868150-901		770150-902
	Guard Column	820212-925	820212-926	820212-933	820212-928		820212-930
		Amide-C18	C18-A	C18-Ether	C8-A	NH ₂	Si-A
Polaris	21.2 x 50		A2000050G212	A2020050G212S	A2010050G212		A2003050X212
	21.2 x 100	A2006100X212					
	21.2 x 150		A2000150X212				
	21.2 x 250		A2000250X212	A2020250X212	A2010250X212	A2013250X212	A2003250X212
	Guard Column		A2000030G212				
	21.2 x 30						

*Available in cartridge hardware format. Requires separate purchase of end fittings.

Agilent offers a range of preparative LC columns in 7 and 10 µm. Talk to your Agilent representative for assistance.

For preparative LC columns for biomolecules, visit: www.agilent.com/en/product/biopharma-hplc-analysis/preparative-hplc-columns-bulk-media



Agilent InfinityLab preparative LC columns are rugged and reliable and designed to work together as part of the InfinityLab Purification Solutions that improve uptime, minimize rework, and simplify operation.

Purify your samples with maximum flexibility

For isolation and purification of your samples with exceptional purity and recovery, InfinityLab LC Purification Solutions offer high-performance instrumentation, columns, software, and services for analytical- to preparative-scale workflows. A comprehensive and scalable portfolio based on a single platform gives you the choice to tailor a system to meet your laboratory's current and future needs.

Learn more about Agilent InfinityLab LC Purification Solutions at www.agilent.com/chem/infinitylab-lc-purification



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