

Alltima™

A COLUMN FOR ALL REASONS

NEW!
LC/MS Hardware Format!
see pages 8 & 9



1

Versatile Packings for a Wide Range of Applications



2

Acid and Base Deactivated for Symmetrical Peaks



3

Stable Bonded Phases for Long Column Life



4

A Large Selection of Hardware Formats

Versatile Packings for a Wide Range of Applications

What are You Looking for in an HPLC Column?

Alltech's Alltima™ HPLC Columns will satisfy the requirement of today's applications!

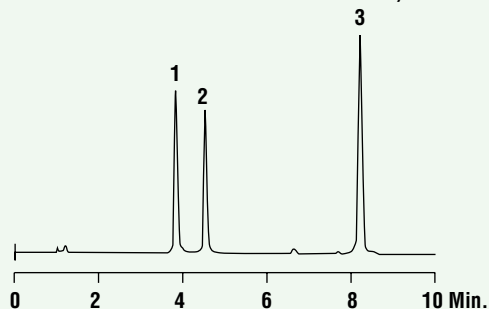
- Large Selection of Mobile Phase Chemistries, Particle Sizes, Porosities, and Column Formats
- Extensive Collection of Published Applications
- Demonstrated Stability for Acids, Bases, and Neutrals in a Wide Range of Mobile Phases

Alltima's performance and versatility are exemplified by the following applications.

Antibacterials

CHROM
8764

1. Oxytetracycline Dihydrate
2. Tetracycline HCL
3. Mecloicycline Sulfosalicylate Salt



Column: Alltima™ C18, 3µm, 100 x 4.6mm
Mobile Phase: A: 50mM KH₂PO₄, pH 3.0 B: CH₃CN
Gradient:

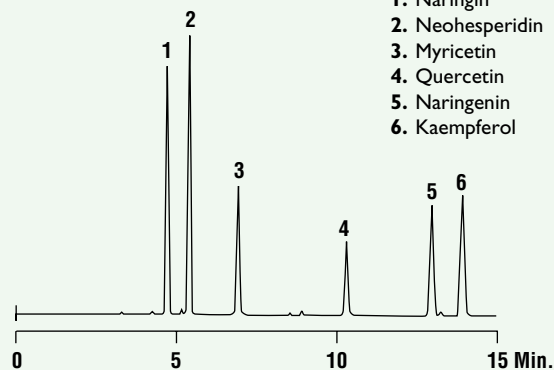
| | | |
|-------|----|----|
| Time: | 0 | 10 |
| %B: | 15 | 40 |

Flowrate: 1.0mL/min
Detector: UV at 254nm

Natural Products

CHROM
8887

1. Naringin
2. Neohesperidin
3. Myricetin
4. Quercetin
5. Naringenin
6. Kaempferol



Column: Alltima™ C18, 3µm, 100 x 4.6mm
Mobile Phase: A: 50mM KH₂PO₄, pH 2.5 B: CH₃CN
Gradient:

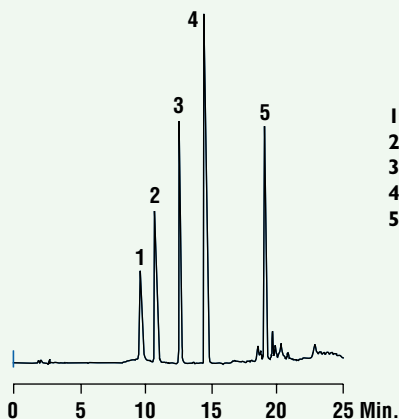
| | | |
|-------|----|----|
| Time: | 0 | 15 |
| %B: | 20 | 40 |

Flowrate: 1.0mL/min
Detector: UV at 280nm

Antihistamines

CHROM
7232

1. Tripeleennamine
2. Triprolidine
3. Cyclizine
4. Chlorcyclizine
5. Meclizine



Column: Alltima™ C18, 5µm, 250 x 4.6mm
Mobile Phase: A: 50mM KH₂PO₄, pH 3.2 B: CH₃CN
Gradient:

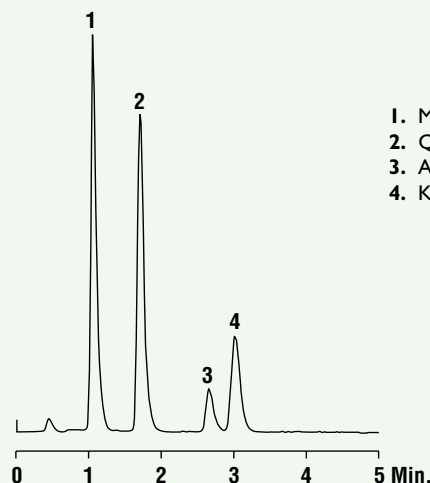
| | | | |
|-------|----|----|----|
| Time: | 0 | 5 | 20 |
| %B: | 25 | 25 | 70 |

Flowrate: 1.3mL/min
Detector: UV at 220nm

Flavonoids

CHROM
9271

1. Myricetin
2. Quercetin
3. Apigenin
4. Kaempferol

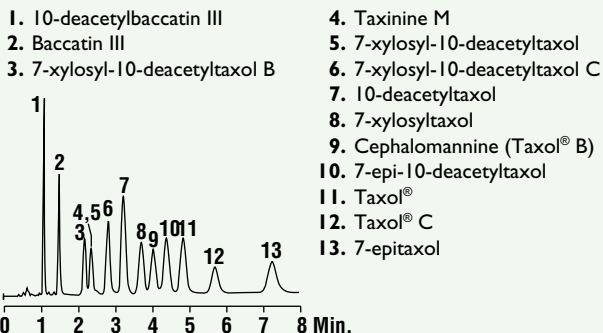


Column: Alltima™ C18 Rocket™, 3µm, 53 x 7mm
Mobile Phase: 0.1% TFA in H₂O, pH 0.95:0.1% TFA in CH₃CN(65:35)
Flowrate: 2.5mL/min
Detector: ELSD

Versatile Packings for a Wide Range of Applications

Taxol® and Related Taxanes in Yew (taxus brevifolia)

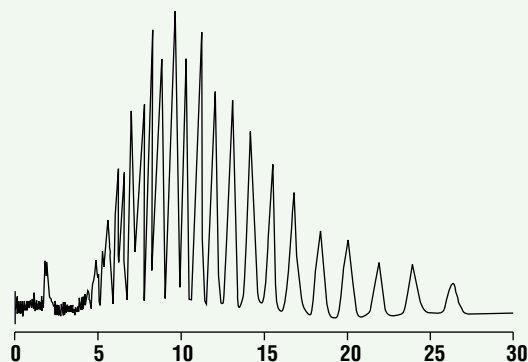
CHROM-9221



Column: Alltima™ Phenyl Rocket™, 3µm, 53x 7mm
Mobile Phase: 0.05% TFA in H₂O:MeOH:CH₃CN (50:19:31)
Flowrate: 2.5mL/min
Detector: UV at 230nm

Tween 80

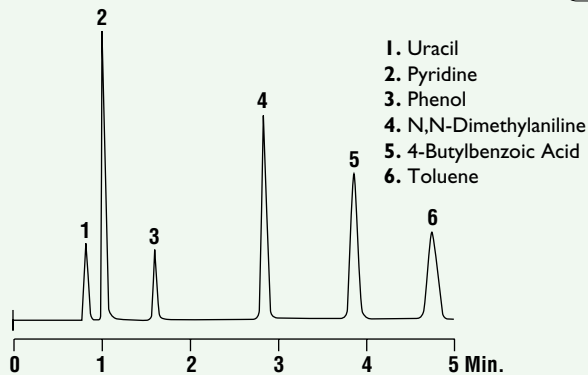
CHROM-7809



Column: Alltima™ C18, 5µm, 250 x 4.6mm
Mobile Phase: H₂O:MeOH (40:60)
Flowrate: 1.0mL/min
Detector: ELSD

Acids, Bases, and Neutrals

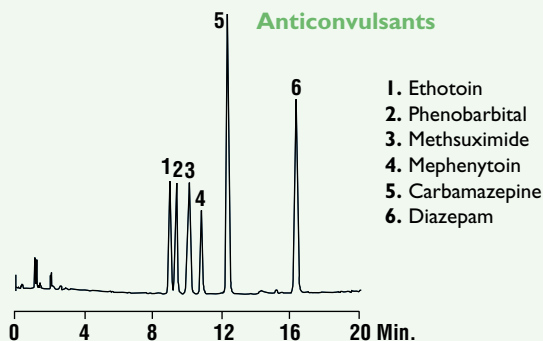
CHROM-8760



Column: Alltima™ C18, 3µm, 100 x 4.6mm
Mobile Phase: 50mM KH₂PO₄, pH3.0:CH₃CN (40:60)
Flowrate: 1.0mL/min
Detector: UV at 254nm

Anticonvulsants

CHROM-7233



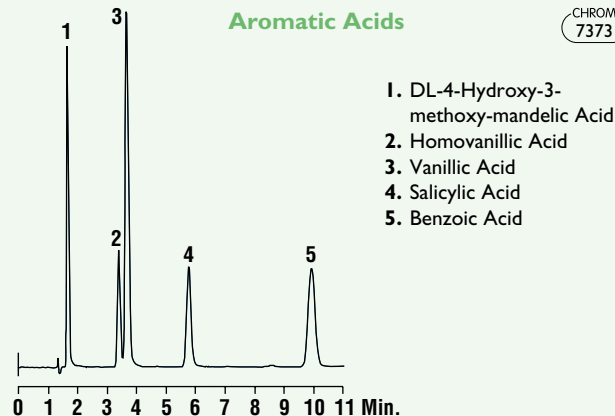
Column: Alltima™ Phenyl, 5µm, 250 x 4.6mm
Mobile Phase: A: H₂O B: CH₃CN
Gradient:

| | | | | |
|-------|----|----|----|----|
| Time: | 0 | 20 | 25 | 30 |
| %B: | 15 | 60 | 60 | 15 |

Flowrate: 1.5mL/min
Detector: UV at 254nm

Aromatic Acids

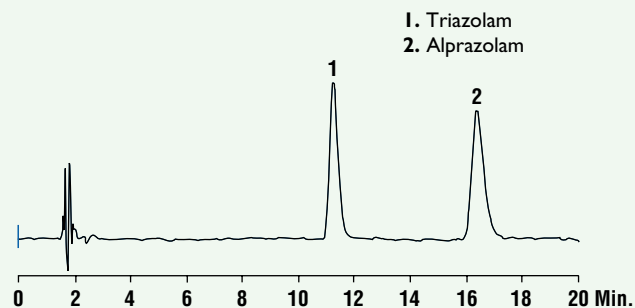
CHROM-7373



Column: Alltima™ C18, 5µm, 150 x 4.6mm
Mobile Phase: 50mM KH₂PO₄, pH 3.2:MeOH (60:40)
Flowrate: 1.0mL/min
Detector: UV at 254nm

Alprazolam and Triazolam by the USP XXII Method

CHROM-7368



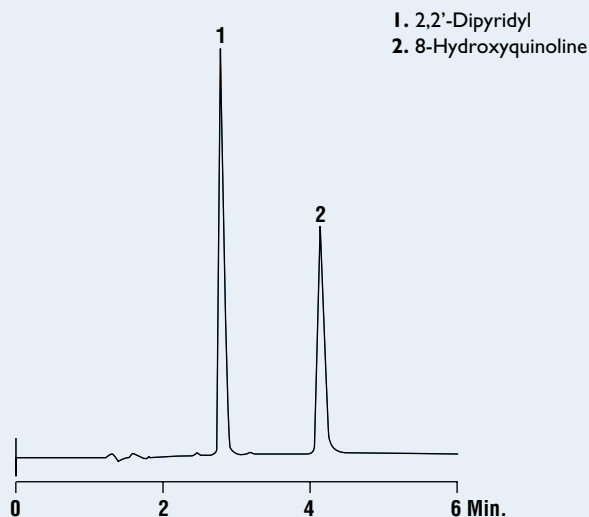
Column: Alltima™ Silica, 5µm, 300 x 4.6mm
Mobile Phase: CH₃CN:CHCl₃:i-BuOH:H₂O:Glacial HOAc (85:8:5:2:0.05)
Flowrate: 2.0mL/min
Detector: UV at 254nm

Acid and Base Deactivated for Symmetrical Peaks

Alltima™ manufacturing processes eliminate activated silanols that cause peak tailing on silica-based columns. Alltima™ columns and simple mobile phases produce sharp, symmetrical peaks with acidic compounds, basic compounds and chelators.

Metal Chelators

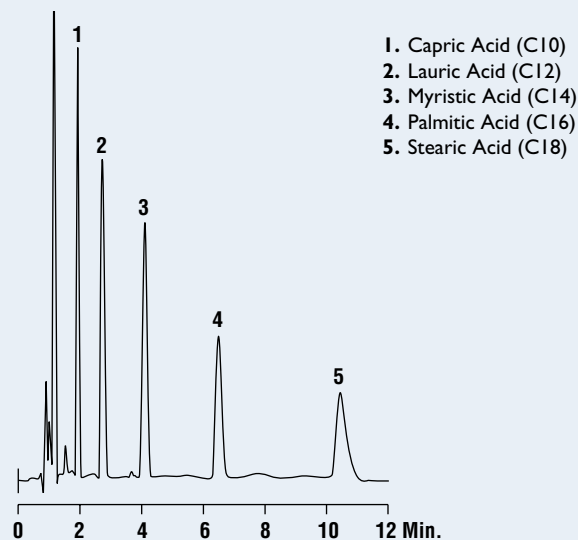
CHROM
8584



Column: Alltima™ C18, 5µm, 150 x 4.6mm
Mobile Phase: 25mM K₂HPO₄, pH7.0:THF:MeOH (50:25:25)
Flowrate: 1.0mL/min
Detector: UV at 254nm

Fatty Acids

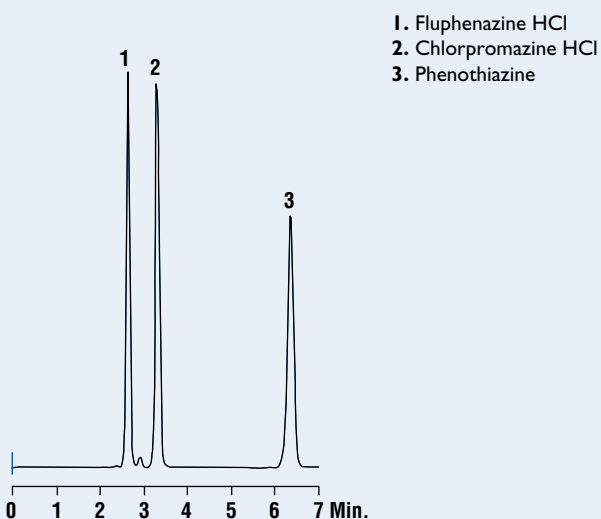
CHROM
8060



Column: Alltima™ C18, 5µm, 150 x 4.6mm
Mobile Phase: THF:CH₃CN:0.1% H₃PO₄ (25:55:20)
Flowrate: 1.5mL/min
Detector: UV at 220nm

Tricyclic Amines

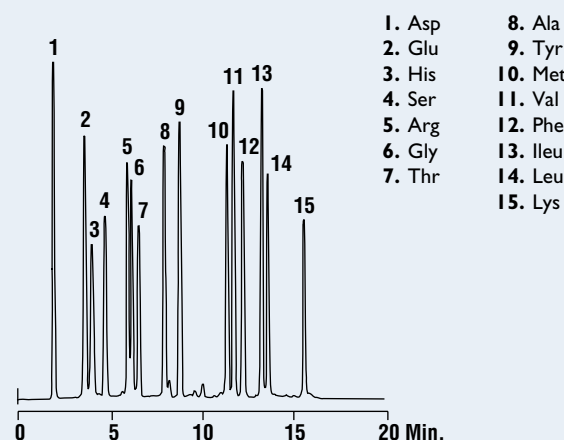
CHROM
7366



Column: Alltima™ Cyano, 5µm, 250 x 4.6mm
Mobile Phase: 50mM NaH₂PO₄, pH3.0: CH₃CN (50:50)
Flowrate: 1.5mL/min
Detector: UV at 254nm

OPA Derivatized Amino Acids

CHROM
7596



Column: Alltima™ C8, 5µm, 100 x 4.6mm
Mobile Phase: A: 50mM NaOAc, pH5.7:THF (95:5)
 B: MeOH
Gradient: Time: 0 | 15 |
 %B: 10 | 65 |
Flowrate: 2.0mL/min
Detector: Fluorescence Ex: 305-395nm Em: 430-470nm

Stable Bonded Phases for Long Column Life

Figure 7 - An Alltima™ C18 column was washed for 500 hours at 60°C with an acetonitrile and trifluoroacetic acid mobile phase. The separation of peptides showed no change in capacity, selectivity, or efficiency.

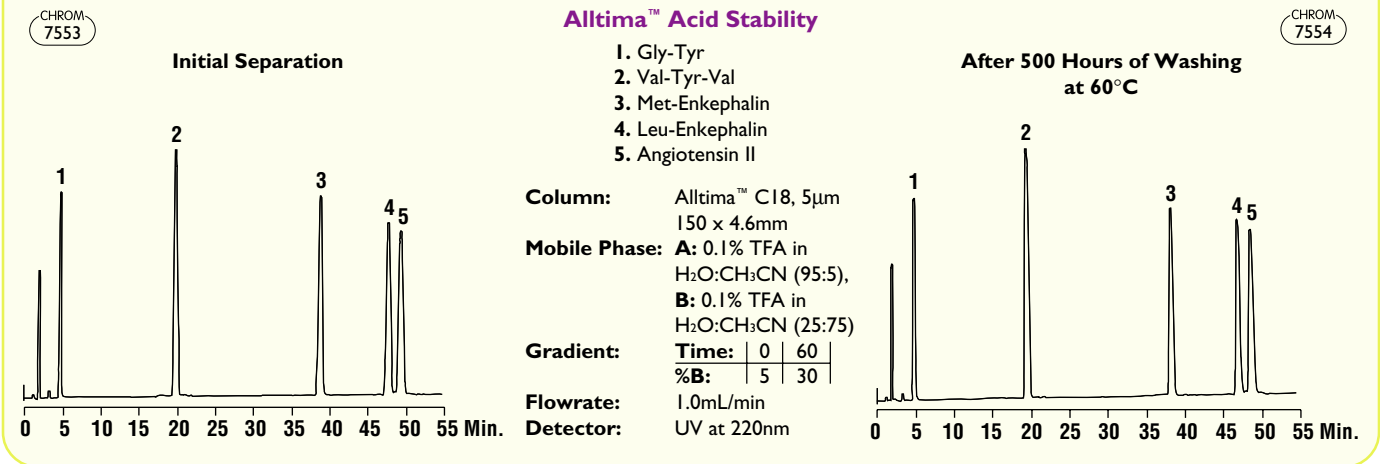


Figure 8 - Alltima™ columns are packed by proven methods and don't void or collapse when subjected to constant high pressure. This chromatography remains unchanged after 1,200 column volumes of a Methanol:Water (50:50) mobile phase pumped through the column at 2.0mL/min (backpressure 3,500psig).

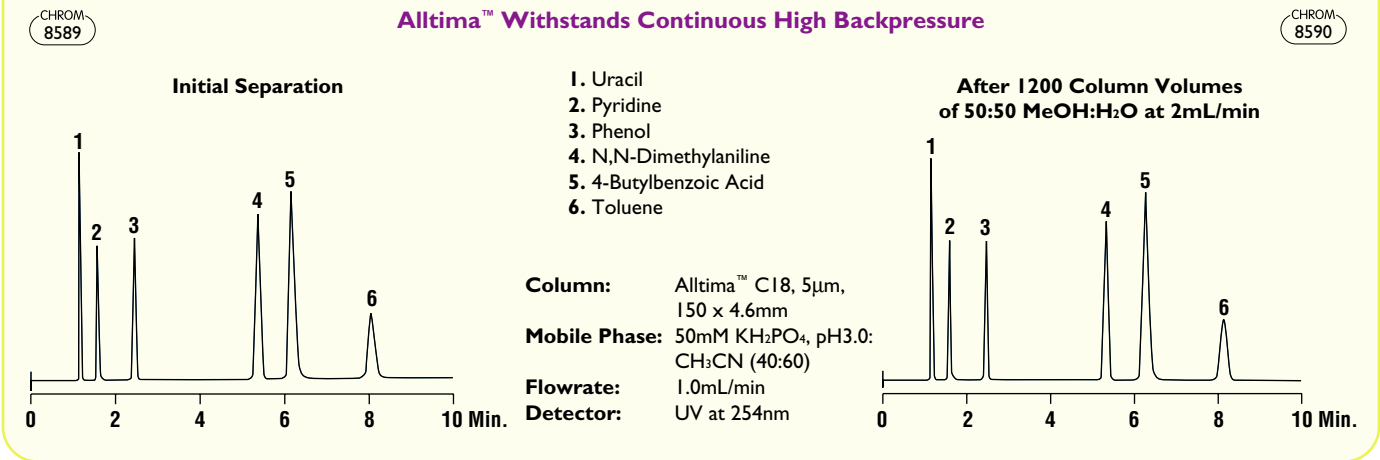
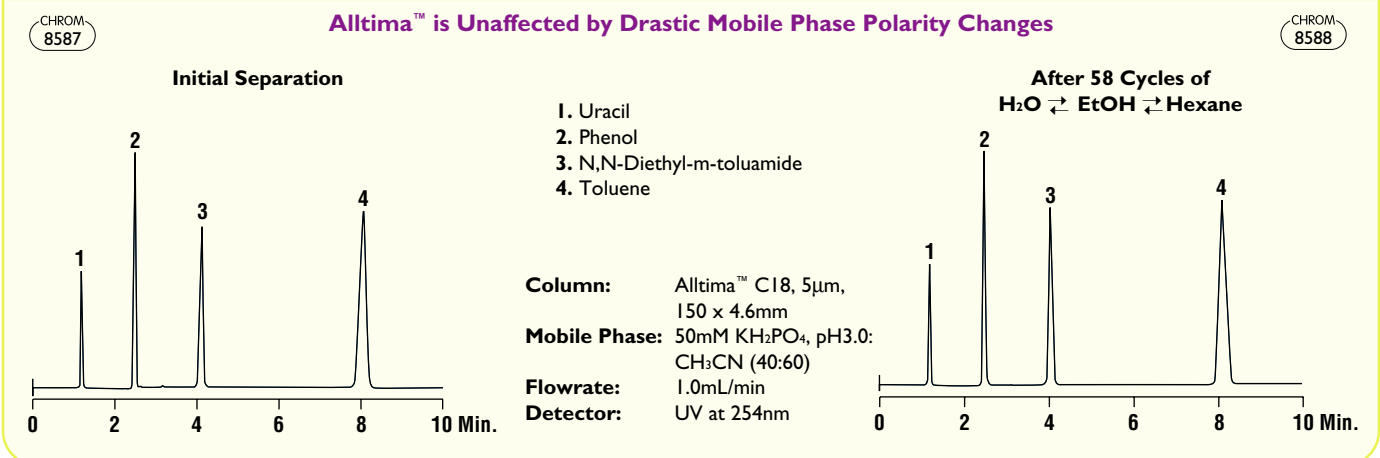


Figure 9 - Drastic solvent polarity changes don't affect Alltima™ Columns. After 58 cycles (29 hours) of Water ⇌ Ethanol ⇌ Hexane, chromatography remains unchanged.



A Large Selection of Hardware Formats

Alltima™ Phases are Extremely Well Suited for Applications Using MS Detection

- Stable in Popular LC/MS Mobile Phases
- No Bonded Phase Bleed
- Analyze Acids, Bases, and Neutrals with Simple, Volatile Mobile Phases
- Available in New Expedite™ Hardware for Fast, Low-Volume Applications

NEW!

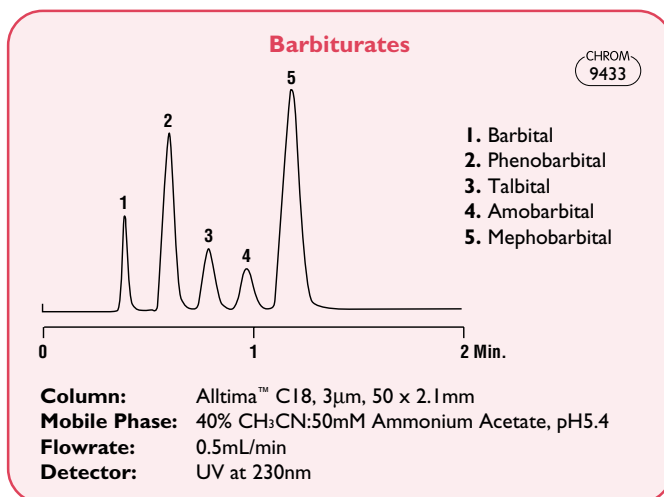
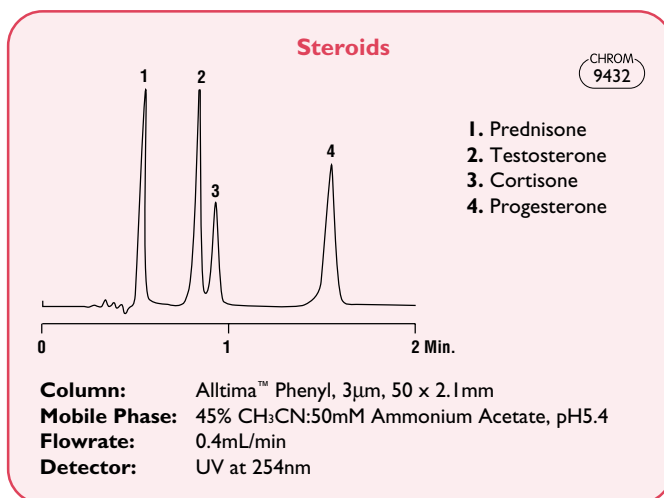
Expedite™ hardware is available in 10 or 20mm lengths, and 2.1 or 4.6mm ID



Expedite your LC/MS analyses with Alltech's high-speed, low-volume Expedite™ hardware. These fast analysis columns packed with high resolution Alltima™ media increase laboratory efficiency by doubling or even tripling sample throughput.

Alltima™ LC/MS Columns

| PACKING | | PARTICLE SIZE | LENGTH X ID | PART NO. | PRICE | |
|------------------|------------------|------------------|-------------|--------------|--------------|--|
| C18 | Expedite™ | 3µm | 10 x 2.1mm | 43836 | | |
| | Expedite™ | 3µm | 20 x 2.1mm | 43803 | | |
| | | 3µm | 50 x 2.1mm | 43849 | | |
| | | 3µm | 100 x 2.1mm | 43821 | | |
| | | 3µm | 150 x 2.1mm | 43852 | | |
| | Expedite™ | 3µm | 10 x 4.6mm | 43837 | | |
| | Expedite™ | 3µm | 20 x 4.6mm | 43851 | | |
| | | 3µm | 100 x 1.0mm | 43853 | | |
| | | 3µm | 150 x 1.0mm | 43864 | | |
| | | 3µm | 33 x 7mm | 50603 | | |
| | | 3µm | 53 x 7mm | 50605 | | |
| | Phenyl | Expedite™ | 3µm | 10 x 2.1mm | 43809 | |
| | | Expedite™ | 3µm | 20 x 2.1mm | 43865 | |
| | | | 3µm | 50 x 2.1mm | 43835 | |
| | | 3µm | 100 x 2.1mm | 43866 | | |
| | | 3µm | 150 x 2.1mm | 43813 | | |
| Expedite™ | | 3µm | 10 x 4.6mm | 43883 | | |
| Expedite™ | | 3µm | 20 x 4.6mm | 43822 | | |
| | | 3µm | 100 x 1.0mm | 43892 | | |
| | | 3µm | 150 x 1.0mm | 43854 | | |
| | | 3µm | 53 x 7mm | 43867 | | |
| Silica | Expedite™ | 3µm | 10 x 2.1mm | 43891 | | |
| | Expedite™ | 3µm | 20 x 2.1mm | 43801 | | |
| | | 3µm | 100 x 2.1mm | 43823 | | |
| | | 3µm | 150 x 2.1mm | 43884 | | |
| | | 3µm | 50 x 2.1mm | 43876 | | |
| | Expedite™ | 3µm | 10 x 4.6mm | 43889 | | |
| | Expedite™ | 3µm | 20 x 4.6mm | 43886 | | |
| | | 3µm | 100 x 1.0mm | 43824 | | |
| | | 3µm | 150 x 1.0mm | 43855 | | |
| | | 3µm | 53 x 7mm | 43877 | | |



Specifications for Alltima™ Packing Materials

| Alltima™ Packing Specifications | PARTICLE SIZE | PORE SIZE | CARBON LOAD | ENDCAPPED |
|---------------------------------|---------------|-----------|-------------|-----------|
| C18 | 3, 5, 10µm | 100Å | 16% | Yes |
| C18-WP | 5µm | 200Å | 17% | Yes |
| C18-LL | 5µm | 100Å | 9% | Yes |
| AQ NEW! | 3, 5µm | 100Å | 15% | Yes |
| C8 | 3, 5, 10µm | 100Å | 9% | Yes |
| C4-WP | 5µm | 200Å | 6% | Yes |
| Phenyl | 3, 5µm | 100Å | 7.5% | Yes |
| Cyano | 3, 5µm | 100Å | — | Yes |
| Amino | 3, 5µm | 100Å | — | No |
| Silica | 3, 5, 10µm | 100Å | — | — |

Large Selection of Hardware Formats



Alltima™ Analytical Columns

| PACKING | PARTICLE SIZE | LENGTH X ID | INDUSTRY STANDARD PART NO. | WATERS INSTRUMENT PART NO. | PRICE |
|---------------|-----------------------|--------------|----------------------------|----------------------------|--------------|
| C18 | 3µm | 50 x 4.6mm | 81412 | — | |
| | 3µm | 100 x 4.6mm | 81382 | 81383 | |
| | 3µm | 150 x 4.6mm | 81387 | 81388 | |
| | 5µm | 150 x 4.6mm | 88052 | 88053 | |
| | 5µm | 250 x 4.6mm | 88056 | 88057 | |
| | 10µm | 150 x 4.6mm | 88302 | 88303 | |
| | 10µm | 250 x 4.6mm | 88307 | 88308 | |
| | AQ NEW! | 5µm | 150 x 4.6mm | 88925 | 88945 |
| 5µm | | 250 x 4.6mm | 88930 | 88950 | |
| 3µm | | 100 x 4.6mm | 88935 | 88955 | |
| 3µm | | 150 x 4.6mm | 88940 | 88960 | |
| C18-WP | 5µm | 150 x 4.6mm | 81194 | 81195 | |
| | 5µm | 250 x 4.6mm | 81196 | 81197 | |
| C18-LL | 5µm | 150 x 4.6mm | 88069 | 88082 | |
| | 5µm | 250 x 4.6mm | 88099 | 88235 | |
| C8 | 3µm | 50 x 4.6mm | 81413 | — | |
| | 3µm | 100 x 4.6mm | 81392 | 81393 | |
| | 3µm | 150 x 4.6mm | 81397 | 81398 | |
| | 5µm | 150 x 4.6mm | 88072 | 88073 | |
| | 5µm | 250 x 4.6mm | 88076 | 88077 | |
| | 10µm | 150 x 4.6mm | 88312 | 88313 | |
| | 10µm | 250 x 4.6mm | 88317 | 88318 | |
| C4-WP | 5µm | 150 x 4.6mm | 81198 | 81199 | |
| | 5µm | 250 x 4.6mm | 81202 | 81204 | |
| Phenyl | 3µm | 50 x 4.6mm | 81178 | — | |
| | 3µm | 100 x 4.6mm | 81181 | 81184 | |
| | 3µm | 150 x 4.6mm | 81188 | 81191 | |
| | 5µm | 150 x 4.6mm | 88087 | 88088 | |
| | 5µm | 250 x 4.6mm | 88092 | 88093 | |
| Cyano | 3µm | 50 x 4.6mm | 81179 | — | |
| | 3µm | 100 x 4.6mm | 81182 | 81186 | |
| | 3µm | 150 x 4.6mm | 81189 | 81192 | |
| | 5µm | 150 x 4.6mm | 88180 | 88182 | |
| | 5µm | 250 x 4.6mm | 88189 | 88191 | |
| Amino | 3µm | 50 x 4.6mm | 81180 | — | |
| | 3µm | 100 x 4.6mm | 81183 | 81187 | |
| | 3µm | 150 x 4.6mm | 81190 | 81193 | |
| | 5µm | 150 x 4.6mm | 88205 | 88207 | |
| | 5µm | 250 x 4.6mm | 88217 | 88218 | |
| Silica | 3µm | 50 x 4.6mm | 81414 | — | |
| | 3µm | 100 x 4.6mm | 81404 | 81405 | |
| | 3µm | 150 x 4.6mm | 81409 | 81410 | |
| | 5µm | 150 x 4.6mm | 88123 | 88124 | |
| | 5µm | 250 x 4.6mm | 88171 | 88172 | |
| | 10µm | 150 x 4.6mm | 88322 | 88323 | |
| 10µm | 250 x 4.6mm | 88327 | 88328 | | |



Alltima™ Cartridge Columns*

| PACKING | PARTICLE SIZE | LENGTH X ID | INDUSTRY STANDARD PART NO. | PRICE |
|------------------------------|---------------|-------------|----------------------------|-------|
| C18 | 5µm | 150 x 4.6mm | 88061 | |
| | 5µm | 250 x 4.6mm | 88062 | |
| Phenyl | 5µm | 150 x 4.6mm | 88095 | |
| | 5µm | 250 x 4.6mm | 88096 | |
| Silica | 5µm | 150 x 4.6mm | 88125 | |
| | 5µm | 250 x 4.6mm | 88173 | |
| Endfitting, SS, 1 set | | | 28197 | |

*Requires endfitting set (Part No. 28197).



Alltima™ Prep Columns **NEW!**

| PACKING | PARTICLE SIZE | LENGTH X ID | INDUSTRY STANDARD PART NO. | PRICE | |
|---------------|---------------|--------------|----------------------------|--------------|--|
| C18 | 5µm | 150 x 10mm | 81102 | | |
| | 5µm | 250 x 10mm | 88063 | | |
| | 5µm | 150 x 22mm | 81106 | | |
| | 5µm | 250 x 22mm | 81105 | | |
| | 10µm | 150 x 10mm | 81107 | | |
| | 10µm | 250 x 10mm | 88334 | | |
| | 10µm | 150 x 22mm | 81108 | | |
| | 10µm | 250 x 22mm | 88335 | | |
| | C8 | 5µm | 150 x 10mm | 81109 | |
| | | 5µm | 250 x 10mm | 88081 | |
| 5µm | | 150 x 22mm | 81112 | | |
| 5µm | | 250 x 22mm | 81110 | | |
| 10µm | | 150 x 10mm | 81114 | | |
| 10µm | | 250 x 10mm | 88336 | | |
| 10µm | | 150 x 22mm | 81115 | | |
| Silica | 5µm | 150 x 10mm | 81117 | | |
| | 5µm | 250 x 10mm | 81116 | | |
| | 5µm | 150 x 22mm | 81119 | | |
| | 5µm | 250 x 22mm | 81118 | | |
| | 10µm | 150 x 10mm | 81121 | | |
| | 10µm | 250 x 10mm | 88338 | | |
| | 10µm | 150 x 22mm | 81125 | | |
| 10µm | 250 x 22mm | 88339 | | | |



Alltima™ Rocket™ Columns

| PACKING | PARTICLE SIZE | LENGTH X ID | PART NO. | PRICE |
|-----------------------|---------------|-------------|--------------|-------|
| C18 | 3µm | 33 x 7mm | 50603 | |
| | 3µm | 53 x 7mm | 50605 | |
| AQ NEW! | 3µm | 53 x 7mm | 50765 | |
| C8 | 3µm | 33 x 7mm | 50607 | |
| | 3µm | 53 x 7mm | 50609 | |

Alltima™ Guard Columns and Validation Kits

Protect Your Alltima™ Columns with Alltima™ Guard Columns

- **Simple** – Fewer Parts, Fewer Seals, Fewer Problems
- **Fast** – Change Cartridges in Seconds without Tools
- **Efficient** – Matched Media and Low Dead Volume Maintain Chromatographic Performance



1656

Alltima™ All-Guard™ Guard Columns

| DESCRIPTION | PARTICLE SIZE | LENGTH X ID | QTY | PART No. | PRICE |
|--|---------------|-------------|-----|--------------|-------|
| All-Guard™ Cartridges (Requires Guard Holder) | | | | | |
| C18 | 5µm | 7.5 x 4.6mm | 3 | 96080 | |
| C18-WP | 5µm | 7.5 x 4.6mm | 3 | 96412 | |
| C18-LL | 5µm | 7.5 x 4.6mm | 3 | 96285 | |
| AQ | 5µm | 7.5 x 4.6mm | 3 | 96344 | |
| C8 | 5µm | 7.5 x 4.6mm | 3 | 96081 | |
| C4-WP | 5µm | 7.5 x 4.6mm | 3 | 96413 | |
| Phenyl | 5µm | 7.5 x 4.6mm | 3 | 96082 | |
| Cyano | 5µm | 7.5 x 4.6mm | 3 | 96084 | |
| Amino | 5µm | 7.5 x 4.6mm | 3 | 96085 | |
| Silica | 5µm | 7.5 x 4.6mm | 3 | 96083 | |

Guard Holder (Includes Direct-Connect Column Coupler)

| | | |
|-----------------------------|----|--------------|
| All-Guard™ Cartridge Holder | Ea | 80101 |
|-----------------------------|----|--------------|

Alltima™ C18 Validation Kits Simplify Method Development

When validating a method, Alltima™ is the column of choice because of its excellent batch to batch, and column to column reproducibility. The Alltima™ C18 Method Validation Kit helps test method ruggedness prior to routine use. This kit contains three columns made from three different batches of either 3µm or 5µm Alltima™ C18 packing.

Alltima™ C18 Validation Kits

| DESCRIPTION | PART No. | PRICE |
|--|--------------|-------|
| Alltima™ C18 Method Validation Kits | | |
| 100 x 4.6mm, 3µm Kit (3 Columns from 3 Different Batches) | 11350 | |
| 150 x 4.6mm, 5µm Kit (3 Columns from 3 Different Batches) | 11541 | |
| 250 x 4.6mm, 5µm Kit (3 Columns from 3 Different Batches) | 11543 | |



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