



Alltima

The Alltima HPLC column range was developed by Alltech. Hichrom acquired the entire range from Grace. Alltima phases are acid and base-deactivated, giving excellent peak shape for acids, bases, and neutrals in a single run. Polymerically bonded and double-encapped for long column lifetimes, Alltima columns are great general purpose "workhorse" columns.

Key Features

- Base deactivated silica
- Stable bonding for long column lifetime
- Symmetrical peak shape

Alltima Phase Specifications

Phase	Particle size / μm	Endcapped?	Properties	Applications	USP Code
C18	3, 5, 10	Yes	Classic reversed-phase retention and selectivity	High quality hydrophobic general purpose C18	L1
C18-LL	5	Yes	Lower carbon load than traditional Alltima C18	Reversed-phase applications that require a less hydrophobic C18 phase	L1
C8	3, 5	Yes	Lower retention compared to C18 phases	Reversed-phase applications where C18 is too retentive	L7
Amino	3, 5	No	General purpose amino suitable for normal or reversed-phase use	Use for carbohydrate analysis or as a weak anion exchanger	L8
Cyano	3, 5	Yes	General purpose cyano suitable for normal or reversed-phase use	Rugged normal-phase applications	L10
Phenyl	3, 5	Yes	Less hydrophobic than C18 phase	Selective to aromatic compounds	L11
Silica	3, 5, 10	-	Highly polar phase	General purpose normal phase applications	L3

Ordering Information

Analytical Columns

3 μm

Length / mm	20		50		100		
	2.1	4.6	2.1	4.6	1.0	2.1	4.6
C18	43803	43851	88353	81412	43853	88352	81382
C8	-	-	-	81413	-	-	81392
Amino	-	-	-	81180	-	-	81183
Cyano	-	-	-	81179	-	-	81182
Phenyl	-	-	-	81178	-	-	81181
Silica	-	-	-	81414	-	-	81404

Length / mm	150		250	Guard cartridges (3/pk) ¹
	2.1	3.0	4.6	For 2.1
C18	43852	81143	81387	AL-3C18-25046
C8	-	-	81397	-
Amino	AL-3NH-150DK ²	-	81190	-
Cyano	-	-	81189	-
Phenyl	43813	-	81188	-
Silica	43884	-	81409	-

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081). ²Actual dimensions: 150 x 2.0 mm

3 μm – Columns Compatible with Waters Instruments

Length / mm	100	150
C18	81383	81388
C8	81393	81398
Silica	81405	81410

3 μm – Rocket Columns

Rocket columns are specifically designed for high-throughput and high-speed methods.

Length / mm	33	53
C18	50603	50605
C8	-	50609
Phenyl	-	43867
Silica	-	43877

Column: Alltima C8, 5 μm , 150 x 4.6 mm (p/n 88072)

Dimensions: 150 x 4.6 mm

Mobile phase: A: 0.05 M K_2HPO_4 , pH 3.3

B: Methanol

C: Acetonitrile

Time / min	0	2	5
% A	80	80	45
% B	10	10	30
% C	10	10	25

Flow rate: 2.0 mL min⁻¹

Detector: UV at 280 nm

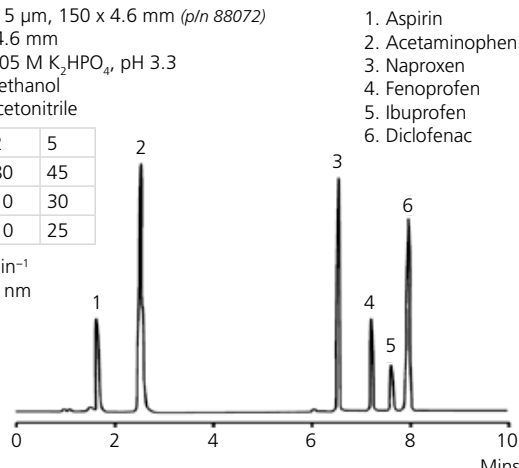


Figure 1. Analgesics

1. Aspirin
2. Acetaminophen
3. Naproxen
4. Fenoprofen
5. Ibuprofen
6. Diclofenac

5 µm

Length / mm	50		100		125	150		
i.d. / mm	2.1	4.6	3.0	4.6	4.0	2.1	3.0	4.6
C18	88888	88889	–	88059	AL-5C18-125DF	88370	81140	88052 ¹
C18-LL	–	–	–	–	–	88388	–	88069
C8	–	–	AL-5C8-100DT	–	–	88372	81146	88072
Amino	–	–	–	–	–	–	–	88205
Cyano	–	–	–	88065	–	–	–	88180
Phenyl	–	–	–	–	–	–	81147	88087
Silica	–	–	–	–	–	–	–	88123

¹Also available in PEEK metal-free hardware (88051).

Length / mm	250				300			Guard cartridges (3/pk) ¹	
i.d. / mm	2.1	3.0	4.0	4.6	3.9	4.0	4.6	For 2.1	For 3.0–4.6
C18	88371	81142	AL-5C18-250DF	88056 ²	AL-5C18-300DE	AL-5C18-300DF	AL-5C18-300D	96680/N ³	96361/N ⁴
C18-LL	88389	–	–	88099	–	–	–	96432/N	96285/N
C8	–	–	–	88076	–	–	–	96441/N	96362/N
Amino	–	–	AL-5NH-250DF	88217 ⁵	–	–	–	–	96085/N
Cyano	–	–	–	88189	–	–	–	–	96084/N
Phenyl	–	–	–	88092	AL-5PH-300DE	–	–	96442/N	96082/N
Silica	–	–	AL-5-250DF	88171	–	AL-5-300DF	–	96450/N	96083/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081). ²Also available in PEEK metal-free hardware (88055).

³Also available with 10/pk (5174010/N). ⁴Also available with 10/pk (960805P/N). ⁵Also available with reversed-phase solvent (88217R).

5 µm – Columns Compatible with Waters Instruments

Length / mm	150	250	Guard cartridges (3/pk) ¹
i.d. / mm	4.6	4.6	For 3.0–4.6
C18	88053	88057	96361/N
C8	88073	88077	96362/N
Amino	–	88218	96085/N
Cyano	88182	88191	96084/N
Phenyl	88088	88093	96082/N
Silica	–	88172	96083/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (Waters type column port: HI-881).

10 µm

Length / mm	150	250	300	
i.d. / mm	4.6	4.6	3.9	4.0
C18	88302	88307	AL-10C18-300DE	AL-10C18-300DF
Silica	–	88327	AL-10-300DE	–

88308 – Alltima C18, 10 µm, 250 x 4.6 mm
(compatible with Waters instruments)

Method Validation Kits

Alltima C18 method validation kits containing 3 columns from 3 different silica batches are available for you to evaluate the robustness of your method to ensure reproducibility run after run.

11350 – Alltima C18, 3 µm, 100 x 4.6 mm

11541 – Alltima C18, 5 µm, 150 x 4.6 mm

11543 – Alltima C18, 5 µm, 250 x 4.6 mm

Semi-preparative and Preparative Columns

5 µm

Length / mm	150		250		Guard cartridges (3/pk) ¹
i.d. / mm	10	22	10	22	For 10–22
C18	81102	81106	88063	81105	AL-5C18-10CP2
C8	81109	–	88081	81110	–
Silica	81117	–	81116	81118	–

¹To be used with semi-prep guard holder (C-1000) and column coupler for All-Guard cartridges (HI-081).

10 µm

Length / mm	250		Guard column (33 x 7 mm)
i.d. / mm	10	22	
C18	88334	88335	970203
Silica	88338	88339	970204

Column: Alltima C18, 3 µm, 53 x 7 mm Rocket (*p/n:* 50605)

Mobile phase: A: 0.1 % Trifluoroacetic Acid in
0.025 M Ammonium Acetate
B: 0.1 % Trifluoroacetic Acid in Acetonitrile

Gradient:	Time / min	0	4
% A		80	5
% B		20	95

Flow rate: 3.5 mL min⁻¹

Detector: UV at 254 nm

1. Acetazolamide
2. Hydrochlorothiazide
3. Triamterene
4. Hydroflumethiazide
5. Clopamide
6. Trichloromethiazide
7. Indapamide
8. Bumetanide
9. Spironolactone

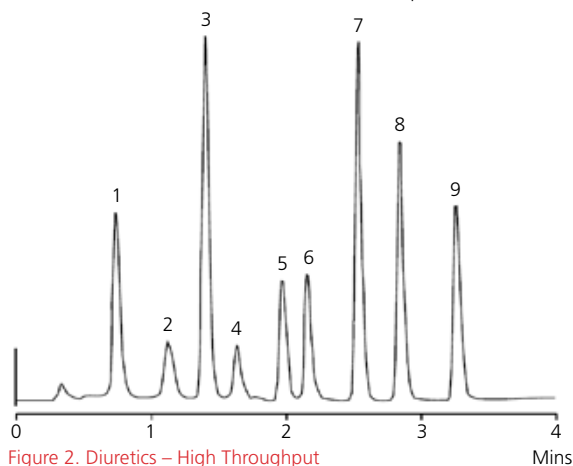


Figure 2. Diuretics – High Throughput



Alltima HP

The Alltima HP range of HPLC columns was developed by Alltech. Hichrom acquired this range from Grace. Alltima HP columns offer a range of different phase chemistries based on high purity silica. The Alltima HP product family combines the selectivity and performance needed to overcome the most challenging separation needs. The low column bleed makes these columns ideal for microbore applications.

Key Features

- High purity silica
- Excellent column stability
- Low to no detectable column bleed
- pH stability from 1 to 10
- Multiple selectivity options

Alltima HP Phase Specifications

Phase	Particle size / μm	Endcapped?	Properties	Applications	USP code
C18	3, 5	Yes	Classic reversed-phase retention and selectivity	Routine applications	L1
C18-EPS	3, 5	Yes	Greater retention and enhanced peak symmetry for polar compounds. Alternative selectivity to traditional reversed-phase	Reversed-phase applications where C18 is too retentive	L1
C18-HiLoad	3, 5	Yes	Highest carbon load for superior retention and loadability	High resolution for complex samples	L1
C18-AQ	3, 5	Yes	100% water wetttable	Applications requiring high aqueous mobile phases	L1
C18-Amide	3, 5	Yes	Polar-embedded phase with extremely low bleed. Compatible with microbore	Basic compounds in neutral to alkaline pH, MS applications	L1
C8	3, 5	Yes	Lower retention compared to C18 phases	Reversed-phase applications where C18 is too retentive	L7
Cyano	3, 5	Yes	Extremely stable, long life and reproducible	Ideal for basic drug analysis	L10
Silica	3, 5	No	Highly polar phase	General purpose normal phase applications	L3
HILIC	3, 5	—	Hydrophilic Interaction Chromatography uses small amounts of water for increased sensitivity with microbore applications	Very polar analytes that are difficult to retain by reversed-phase	L3

Ordering Information

Capillary Columns

3 μm

Length / mm	50		100		150	
	0.15	0.3	0.15	0.3	0.15	0.3
C18	22153	22156	22154	22157	22155	22158
C18-HiLoad	22190	22193	22191	22194	22192	22195
C18-AQ	22560	22563	22561	22564	22562	22565
C18-Amide	22255	22258	22256	22259	22257	22260
C8	22479	22482	22480	22483	22481	22484
HILIC	22515	22518	22516	22519	22517	22520

5 μm

Length / mm	50		100		150		250
	0.15	0.3	0.15	0.3	0.15	0.3	0.3
C18	22124	22128	22125	22129	22126	22130	22131
C18-HiLoad	22169	22173	22170	22174	22171	22175	22176
C18-AQ	22531	22535	22532	22536	22533	22537	22538
C18-Amide	22236	22240	22237	22241	22238	22242	22243
C8	22460	22464	22461	22465	22462	22466	22467
HILIC	22496	22500	22497	22501	22498	22502	22503

Analytical Columns

3 µm

Length / mm	20		50	
	2.1	4.6	2.1	4.6
C18	87674	87676	87504	87826
C18-EPS	87710	–	87508	87833
C18-HiLoad	87692	87694	87506	87827
C18-AQ	–	87816	–	87832
C18-Amide	87728	–	87510	87829
C8	87746	–	87512	–
Cyano	–	–	87514	87825
Silica	–	–	–	87831
HILIC	–	–	86461	–

Length / mm	100				150			
	1.0	2.1	3.0	4.6	1.0	2.1	3.0	4.6
C18	22163	87669	87629	87667	22164	87670	87601	87668
C18-EPS	–	87705	–	87703	–	87706	87604	87704
C18-HiLoad	22230	87687	–	87685	22231	87688	87610	87686
C18-AQ	22570	87809	–	87807	22571	87810	–	87808
C18-Amide	22265	87723	–	87721	22266	87724	87607	87722
C8	22490	87741	–	87739	22491	87742	87613	87740
Cyano	–	–	–	–	–	87760	87616	87758
Silica	–	–	–	–	–	87788	87619	87786
HILIC	22525	–	–	–	22526	86463	–	86462

AHP-3C18H-250D – Alltima HP C18-HL, 3 µm, 250 x 4.6 mm

5 µm

Length / mm	50	100		150				250				Guard cartridges (3/µk) ¹	
	4.6	1.0	2.1	1.0	2.1	3.0	4.6	1.0	2.1	3.0	4.6	For 2.1	For 3.0-4.6
C18	87643	22137	87665	22138	87681	87602	87679	22139	87682	87603	87680	87683/N	87684/N
C18-EPS	–	–	–	–	87717	–	87715	–	87718	87606	87716	87719/N	87623/N
C18-HiLoad	–	22183	–	22184	87699	87611	87697	22185	87700	87612	87698	87701/N	87624/N
C18-AQ	–	22544	–	22545	87821	–	87819	22546	87822	–	87820	87823/N	87824/N
C18-Amide	–	22249	–	22250	87735	87608	87733	22251	87736	87609	87734	87737/N	87625/N
C8	–	22473	–	22474	87753	87614	87751	22475	–	87615	87752	87755/N	87756/N
Cyano	–	–	–	–	87781	–	87769	–	–	87618	87780 ²	87783/N	87784/N
Silica	–	–	–	–	87799	87620	87797	–	87802	87621	87798	87803/N	87804/N
HILIC	–	22509	–	22510	86465	–	86464	22511	–	–	86466	86479/N	86480/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Also available with reversed-phase shipping solvent (87780R)

3 µm – Rocket Columns

Rocket columns are specifically designed for high-throughput and high-speed methods.

Length / mm	33	53
	i.d. / mm	7
C18	87671	87672
C18-EPS	–	87708
C18-HiLoad	–	87690
C18-AQ	87811	87812
C8	–	87744
Cyano	87761	87762
Silica	87789	87790
HILIC	86469	86470

Column: Alltima HP C18-EPS, 5 µm, 150 x 4.6 mm (p/n: 87715)

Mobile phase: A: 0.03 M Potassium Phosphate, pH 3.2

B: Acetonitrile

Gradient:

Time / min	0	2	20
% A	95	95	70
% B	5	5	30

Flow rate: 1.0 mL min⁻¹

Detector: UV at 260 nm

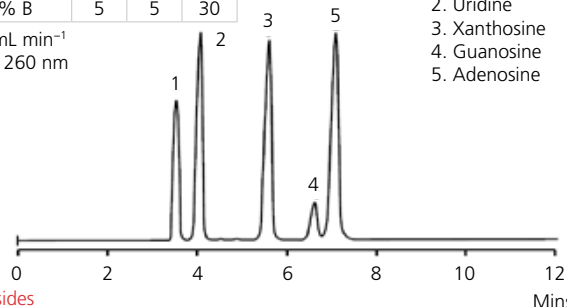


Figure 3. Nucleosides