

Vydac

for biomolecules and polypeptide separation

Vydac 300 Å columns are a commonly employed range in bioseparations. Vydac columns are fully scalable from capillary to microbore and analytical to preparative dimensions. Separate biomolecules from small peptides to large intact proteins with the Vydac family of reversed-phase columns (including Vydac TP, MS, Denali, and Everest) and ion exchange (Vydac 302IC) columns. Reversed-phase columns for a polypeptide separation should be considered on the basis of the polypeptide's hydrophobicity, with molecular weight as a secondary consideration.



VYDAC HPLC COLUMN SPECIFICATIONS

Phase	USP listing	Functional group	Endcapped	Particle Size (µm)	Surface Area (m ² /g)	Pore size (Å)	Carbon load (%)	Bonding type	pH
Vydac TP									
218TP	L1	Octadecyl	Yes	3, 5, 10, 10-15, 15-20, 20-30	60 - 110	300	8	Polymeric	2 - 7
238TP	L1	Octadecyl	No	5	60 - 110	300	4	Monomeric	2 - 7
201TP	L1	Octadecyl	No	5, 10	70 - 90	300	8	Polymeric	2 - 7
202TP	L1	Octadecyl	No	5	60 - 90	300	9	Polymeric	2 - 7
208TP	L7	Octyl	Yes	3, 5, 10, 10-15, 15-20	60 - 110	300	5	Polymeric	2 - 7
214TP	L26	Butyl	Yes	3, 5, 10, 10-15, 15-20	60 - 110	300	3	Polymeric	2 - 7
214ATP	L26	Butyl	Yes	5	60 - 110	300	3	Polymeric	2 - 7
219TP	L11	Diphenyl	Yes	5, 10	60 - 110	300	4	Polymeric	2 - 7
Vydac MS									
218MS	L1	Octadecyl	Yes	5, 10	200	190	12	Monomeric	2 - 7
238MS	L1	Octadecyl	Yes	5	200	190	4	Monomeric	2 - 7
208MS	L1	Octadecyl	Yes	5, 10	450	100	24	Monomeric	2 - 7
214MS	L1	Octadecyl	Yes	5, 10, 10-15	450	100	20	Monomeric	2 - 7
Vydac Denali									
238DE	L1	Octadecyl	Yes	5, 10	70 - 110	120	6	Monomeric	2 - 7
Vydac Everest									
238EV	L1	Octadecyl	Yes	5	70 - 110	300	6	Monomeric	2 - 7
Vydac IC									
302IC	-	Quaternary amine	-	10	-	> 100	-	-	2 - 6.5

Please contact chromsupport@avantorsciences.com for advice on column selection for EP (European Pharmacopoeia) and JP (Japanese Pharmacopoeia) guidelines, or by application.

Vydac TP

for biomolecules and polypeptide separation

Vydac TP reversed-phase material consists of aliphatic groups bonded to the surface of 300 Å pore diameter silica. The large pores of the TP silica give polypeptide molecules complete access to the interior of the silica pores. Vydac TP silica is the standard that has defined large pore HPLC for polypeptide separations for nearly two decades.

Key Features

- Long column lifetime and negligible phase leaching
- Reliable protein purifications, scalable from analytical to preparative scale
- Referenced in a large number of patents and publications

VYDAC TP PHASE SPECIFICATIONS

Phase	Particle size (µm)	Functional group	Properties	Applications	USP code
218TP	3, 5, 10	C18	First generation polymeric C18 phase with unique selectivity	Small polypeptides 4-5 kDa MW, enzymatic digest fragments, natural and synthetic peptides, multi-ring compounds	L1
238TP	5	C18	First generation monomeric C18 phase	Use for same applications as 218TP, but offers different C18 selectivity	L1
201TP	5, 10	C18	Non-encapped C18 phase	Developed for separation of PAHs	L1
202TP	5	C18	Higher carbon load than 201TP	Developed for separation of PAHs	L1
208TP	3, 5, 10	C8	Less hydrophobic than C18TP phase	Polypeptides 10-20 kDa MW	L7
214TP	5, 10	C4	First generation C4 phase	Glycoproteins, haemoglobin variants, histones, insulin variants, membrane proteins	L26
214ATP	5	C4	C4 phase with lower level of endcapping	Optimised for analysis of human growth hormone	L26
219TP	5, 10	Diphenyl	Lowest capacity first generation diphenyl phase	Polypeptides with aromatic side chains, large hydrophobic proteins, membrane-spanning peptides, lipid peptides, fusion proteins from inclusion bodies	L11

ORDERING INFORMATION

CAPILLARY COLUMNS - 5 µm

Length (mm)	150	
i.d. (mm)	0.3	0.5
218TP	218TP5.315	–
214TP	214TP5.315	214TP5.515

ANALYTICAL COLUMNS - 3 µm

Length (mm)	50			100	
i.d. (mm)	2.1	3.0	4.6	3.0	4.6
218TP	218TP3205	218TP3305	218TP3405	–	218TP3410
208TP	–	–	208TP3405	208TP3310	208TP3410

Length (mm)	150		250	
i.d. (mm)	2.1	4.6	3.0	4.6
218TP	218TP3215	218TP3415	–	218TP34
208TP	–	–	208TP33	–

Length (mm)	Guard cartridges (2/pk) ¹		Guard cartridge kits ²	
i.d. (mm)	For 2.1	For 3.0–4.6	For 2.1	For 3.0–4.6
218TP	218GD32/N	218GD34/N	218GK32/N	218GK34/N
208TP	–	208GD34/N	–	208GK34/N

¹ To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).
² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.



ORDERING INFORMATION

ANALYTICAL COLUMNS - 5 µm

Length (mm)	50				
i.d. (mm)	2.1	1.0	2.1	3.0	4.6
218TP	–	218TP510S	218TP520S	218TP530S	218TP540S
238TP	–	238TP510S	238TP520S	–	238TP540S
201TP	201TP5203	201TP510S	201TP520S	–	201TP540S
208TP	–	208TP510S	208TP520S	–	208TP540S
214TP	–	214TP510S	214TP520S	214TP530S	214TP540S
214ATP	–	–	–	–	214ATP540S
219TP	–	219TP510S	219TP520S	–	219TP540S

Length (mm)	100			
i.d. (mm)	1.0	2.1	3.0	4.6
218TP	218TP5110	218TP5210	–	218TP5410
238TP	238TP5110	–	–	238TP5410
201TP	–	201TP5210	201TP5310	201TP5410
208TP	208TP5110	208TP5210	–	208TP5410
214TP	214TP5110	214TP5210	214TP5310	214TP5410
214ATP	–	214ATP5210	–	–
219TP	–	219TP5210	–	219TP5410

Length (mm)	150			
i.d. (mm)	1.0	2.1	3.0	4.6
218TP	218TP5115	218TP5215	–	218TP5415
238TP	238TP5115	238TP5215	238TP5315	238TP5415
201TP	201TP5115	201TP5215	201TP5315	201TP5415
202TP	–	–	–	202TP5415
208TP	208TP5115	208TP5215	208TP5315	208TP5415
214TP	214TP5115	214TP5215	214TP5315	214TP5415
214ATP	–	214ATP5215	–	214ATP5415
219TP	219TP5115	219TP5215	219TP5315	219TP5415

Length (mm)	250				
i.d. (mm)	1.0	2.1	3.0	4.0	4.6
218TP	218TP51	218TP52	218TP53	–	218TP54
238TP	238TP51	238TP52	238TP53	–	238TP54
201TP	201TP51	201TP52	–	201TP540	201TP54
202TP	–	–	–	–	202TP54
208TP	208TP51	208TP52	208TP53	–	208TP54
214TP	214TP51	214TP52	214TP53	–	214TP54
214ATP	–	214ATP52	–	–	214ATP54
219TP	219TP51	219TP52	219TP53	–	219TP54

Length (mm)	Guard cartridges (2/pk) ¹			Guard cartridge kits ²		
i.d. (mm)	For 1.0	For 2.1	For 3.0–4.6	For 1.0	For 2.1	For 3.0–4.6
218TP	218GD51/N	218GD52/N	218GD54/N	218GK51/N	218GK52/N	218GK54/N
238TP	238GD51/N	238GD52/N	238GD54/N	238GK51/N	238GK52/N	238GK54/N
201TP	–	201GD52/N	201GD54/N	–	201GK52/N	201GK54/N
202TP	–	–	202GD54/N	–	–	202GK54/N
208TP	208GD51/N	208GD52/N	208GD54/N	208GK51/N	208GK52/N	208GK54/N
214TP	214GD51/N	214GD52/N	214GD54/N	214GK51/N	214GK52/N	214GK54/N
214ATP	–	–	214AGD54/N	–	–	214AGK54/N
219TP	–	219GD52/N	219GD54/N	–	219GK52/N	219GK54/N

¹ To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).
² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

ANALYTICAL COLUMNS - 10 µm

Length (mm)	50	150	250			Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. (mm)	4.6	4.6	1.0	2.1	4.6	For 3.0–4.6	For 3.0–4.6
218TP	–	218TP10415	218TP101	218TP102	218TP104	218GD104/N	218GK104/N
201TP	–	201TP10415	–	–	201TP104	201GD104/N	201GK104/N
208TP	208TP10405	208TP10415	–	–	208TP104	208GD104/N	208GK104/N
214TP	–	214TP10415	214TP101	–	214TP104	214GD104/N	214GK104/N

¹ To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).
² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

ANALYTICAL COLUMNS - 10-15 µm

Length (mm)	150	250
i.d. (mm)	4.6	4.6
218TP	5119751	218TP10154
214TP	–	214TP10154

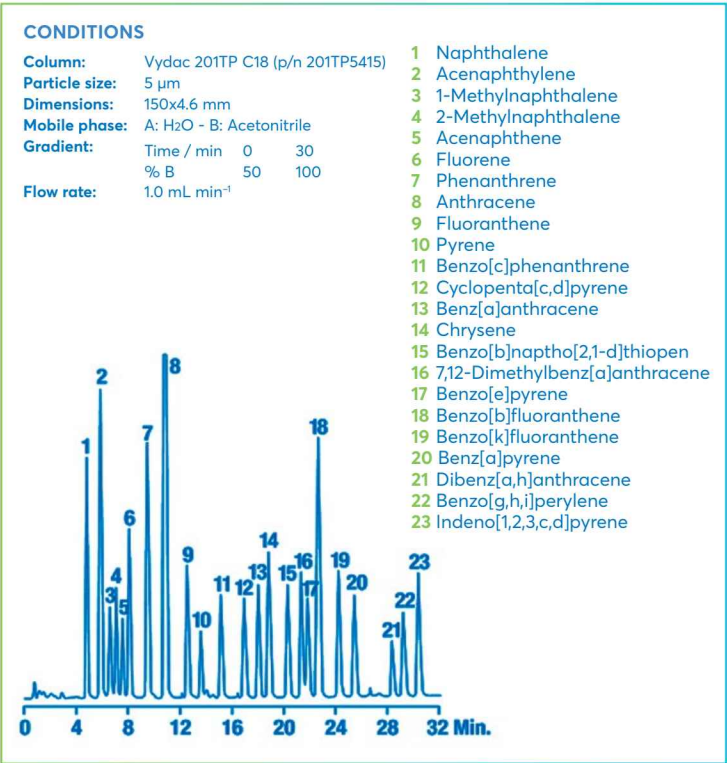


FIGURE 8: Beyond the EPA 16 Priority-Pollutant PAHs.

ANALYTICAL COLUMNS - 15-20 µm

Length (mm)	50	100	150	250	Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. (mm)	4.6	4.6	4.6	4.6	For 3.0-4.6	For 3.0-4.6
218TP	218TP1520405	218TP1520410	218TP1520415	–	–	–
208TP	–	208TP1520410	–	–	–	–
214TP	–	–	–	214TP15204	214GD15204/N	214GK15204/N

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

² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

ANALYTICAL COLUMNS - 20-30 µm

Length (mm)	150
i.d. (mm)	4.6
218TP	218TP2030415

SEMI-PREPARATIVE AND PREPARATIVE COLUMNS - 5 µm

Length (mm)	100		150	250	Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. (mm)	10	22	10	10	For 10-22	For 10-22
218TP	218TP51010	–	218TP51015	218TP510	218GCC510	218FSK510
238TP	–	–	–	238TP510	–	–
201TP	–	–	–	201TP510	–	–
208TP	208TP51010	–	–	208TP510	208GCC510	208FSK510
214TP	214TP51010	214TP52210	214TP51015	214TP510	214GCC510	214FSK510
214ATP	–	–	–	214ATP510	–	–
219TP	–	–	–	219TP510	219GCC510	219FSK510

¹ To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

² Includes holder (GCH10), column coupler (HI-081), and 1 guard cartridge.

SEMI-PREPARATIVE AND PREPARATIVE COLUMNS - 10 µm

Length (mm)	100	150		250		Guard cartridges (2/pk) ¹
i.d. (mm)	22	10	22	10	22	For 10-22
218TP	218TP102210	218TP101015	218TP102215	218TP1010	218TP1022	218GCC1010
208TP	–	–	–	208TP1010	208TP1022	208GCC1010
214TP	–	214TP101015	214TP102215	214TP1010	214TP1022	214GCC1010
219TP	–	–	–	219TP1010	219TP1022	219GCC1010

¹ To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

SEMI-PREPARATIVE AND PREPARATIVE COLUMNS - 10-15 µm

Length (mm)	150		250		Guard cartridges – 12 µm (2/pk) ¹	Guard cartridge kits – 12 µm ²
i.d. (mm)	10	22	10	22	For 10-22	For 10-22
218TP	–	–	218TP101510	218TP101522	218GCC1210	218FSK1210
208TP	–	–	208TP101510	208TP101522	208GCC1210	208FSK1210
214TP	214TP10151015	214TP10152215	214TP101510	214TP101522	214GCC1210	214FSK1210

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

² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

SEMI-PREPARATIVE AND PREPARATIVE COLUMNS - 15-20 µm

Length (mm)	100	150	250		Guard cartridges (2/pk) ¹
i.d. (mm)	22	22	10	22	For 10-22
218TP	218TP15202210	218TP15202215	218TP152010	218TP152022	–
208TP	–	–	–	–	–
214TP	–	–	214TP152010	214TP152022	214GCC152010

¹ To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).