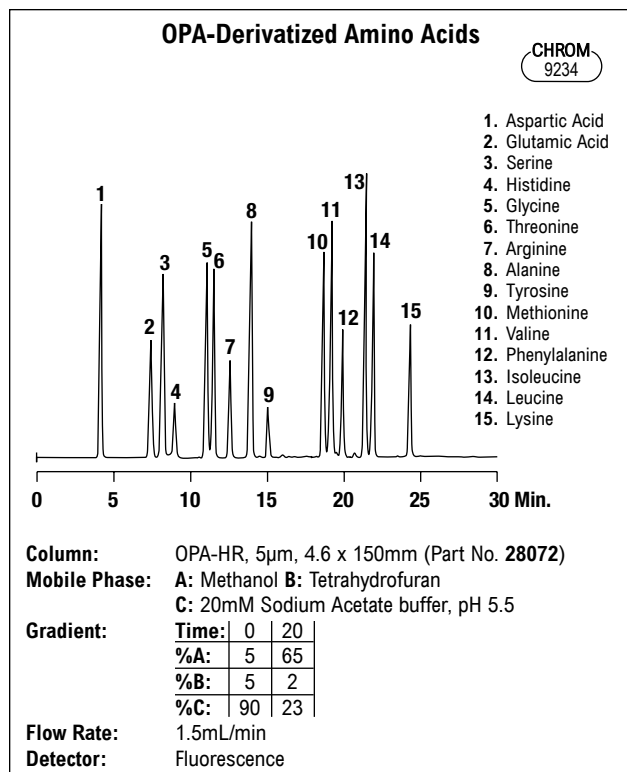


## Alltech® OPA Amino Acid Columns

- OPA-HS for high-speed with protein hydrolysates
- OPA-HR for high-resolution with physiological samples

OPA-HS (high-speed) columns are ideal for the study of protein acid hydrolysates with very simple mobile-phase systems.

OPA-HR (high-resolution) columns are ideal for applications that require more resolution than simple hydrolysates. OPA-HR gives baseline separation of most amino acids found in physiological fluids.



### OPA Amino Acid HPLC Columns

Packing	Format	i.d. x Length	Part No.
OPA-HS, 5 $\mu$ m	Analytical	4.6 x 100mm	28064
OPA-HR, 5 $\mu$ m	Analytical	4.6 x 150mm	28072

### Derivatization Reagents

Description	Qty.	Part No.
OPA Crystals	5g	35606

### more info

For related products, see our Vydac® line of Life Science columns on pages 85–95.

## Alltech® Nucleotide-Nucleoside Columns

- Determine both nucleotides and nucleosides with a single column

With this column, separate seven common nucleosides or twelve common nucleotides using a buffer/methanol/tetrabutyl ammonium phosphate gradient.

### Nucleotide-Nucleoside HPLC Columns

Packing	Format	i.d. x Length	Part No.
Nucleotide-Nucleoside, 7 $\mu$ m	Analytical	4.6 x 250mm	35623

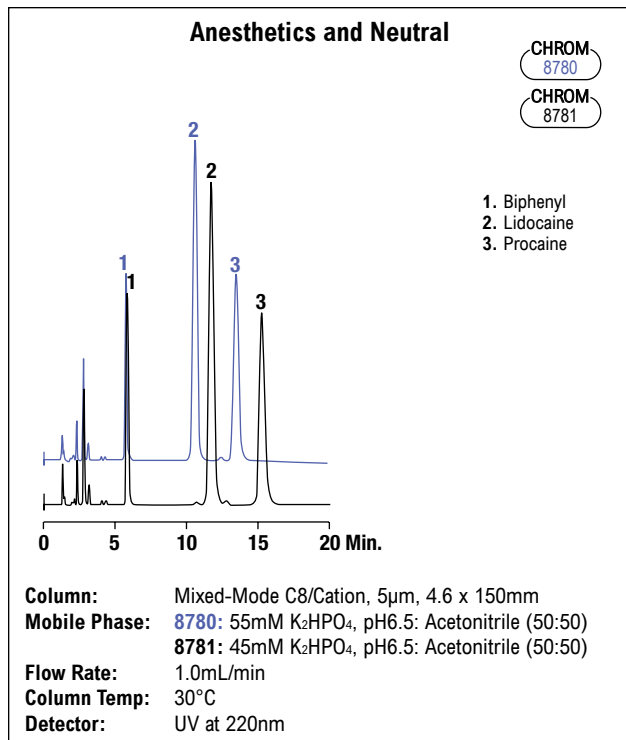
### All-Guard™ Cartridges\*

Packing	i.d. x Length	Qty.	Part No.
Nucleotide-Nucleoside, 7 $\mu$ m	4.6 x 7.5mm	3	96077
All-Guard™ Cartridge Holder (Includes Direct-Connect Column Coupler)		ea	80101

\*All-Guard™ holder required.

## Alltech® Mixed-Mode Columns

- Separate hydrophobic and ionic species on a single column
- Control ionization with buffer adjustments instead of ion-pair reagents



Changing the buffer concentration affects the capacity of the cationic components lidocaine and procaine, but does not affect the capacity of biphenyl, a neutral component.

### Mixed-Mode HPLC Columns

Packing	Format	i.d. x Length	Part No.
C8/Anion, 7µm	Analytical	4.6 x 150mm	<b>71354</b>
	Analytical	4.6 x 250mm	<b>12369</b>
C8/Cation, 5µm	Analytical	4.6 x 150mm	<b>72568</b>
	Analytical	4.6 x 250mm	<b>71364</b>
C18/Cation, 5µm	Analytical	4.6 x 150mm	<b>72574</b>
	Analytical	4.6 x 250mm	<b>71369</b>

### Mixed-Mode All-Guard™ Cartridges\*

Packing, 5µm	i.d. x Length	Qty.	Part No.
C8/Anion	4.6 x 7.5mm	3	<b>96147</b>
C8/Cation	4.6 x 7.5mm	3	<b>71379</b>
C18/Cation	4.6 x 7.5mm	3	<b>71380</b>
All-Guard™ Cartridge Holder (Includes Direct-Connect Column Coupler)		ea	<b>80101</b>

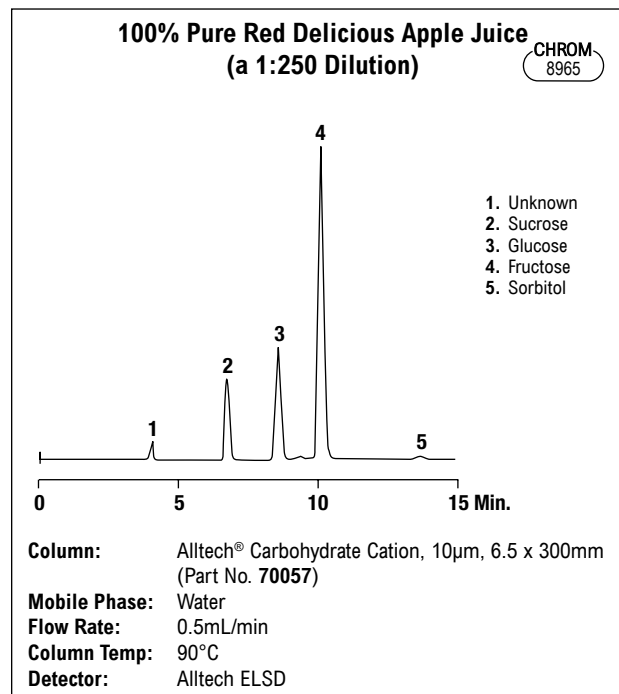
\*All-Guard™ holder required. Other particle sizes available.

## Alltech® Carbohydrate Cation Columns

- High efficiency separations using only water as the mobile phase
- Sulfonated polystyrene resin in the calcium form
- Column heating required



7110



### Carbohydrate Cation HPLC Columns

Packing	Format	i.d. x Length	Part No.
Carbohydrate Cation, 10µm	Analytical	6.5 x 300mm	<b>70057</b>

### more info

For Alltech® Prevail™ Carbohydrate ES columns, see page 47.

### related product

Need a column heater?  
See pages 16 and 17.



6219

### related product

Doing carbohydrate analysis?  
Alltech® 3300 ELSD is more sensitive than RI. See pages 5–10.



6947B

## Alltech® MacroSphere™ GPC Columns

- 7µm GPC phases separate proteins, peptides, and polar synthetic compounds by size-exclusion

MacroSphere™ GPC Exclusion Limits in Daltons		
Pore Size	Included	Excluded
60Å	250	28,000
100Å	2500	350,000
150Å	4000	500,000
300Å	7500	1,200,000

MacroSphere™ GPC Columns				
Packing	Format	i.d. x Length	Standard Part No.	Waters® Fittings Part No.
GPC 60Å	Analytical	4.6 x 250mm	<b>88129</b>	—
GPC 100Å	Analytical	4.6 x 250mm	<b>88133</b>	<b>88134</b>
GPC 150Å	Analytical	4.6 x 250mm	<b>88137</b>	—
GPC 300Å	Analytical	4.6 x 250mm	—	<b>88142</b>

MacroSphere™ GPC All-Guard™ Cartridges*			
Packing, 5µm	i.d. x Length	Qty.	Part No.
GPC	4.6 x 7.5mm	3	<b>96133</b>
All-Guard™ Cartridge Holder		ea	<b>80101</b>

(Includes Direct-Connect™ Column Coupler)

\*All-Guard™ holder required. Other particle sizes available.

## Alltech® MacroSphere™ Ion-Exchange Columns

- 300Å weak and strong ion-exchange phases separate proteins, enzymes, and other biologicals

MacroSphere™ Ion-Exchange Specifications		
	Exchange Group	Exchange Capacity
<b>WAX</b>	Diethylaminoethane	0.13 meq/gram
<b>SCX</b>	Sulfonic Acid	0.50 meq/gram

MacroSphere™ Ion-Exchange Columns			
Packing	Format	i.d. x Length	Part No.
WAX, 7µm	Analytical	4.6 x 150mm	<b>71151</b>
	Analytical	4.6 x 250mm	<b>71154</b>
SCX, 7µm	Analytical	4.6 x 150mm	<b>72308</b>
	Analytical	4.6 x 250mm	<b>72608</b>

MacroSphere™ Ion-Exchange All-Guard™ Cartridges*			
Packing	i.d. x Length	Qty.	Part No.
WAX, 5µm	4.6 x 7.5mm	3	<b>96135</b>
SCX, 5µm	4.6 x 7.5mm	3	<b>96141</b>
All-Guard™ Cartridge Holder		ea	<b>80101</b>

(Includes Direct-Connect™ Column Coupler)

\*All-Guard™ holder required. Other particle sizes available.



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