

## VertiSep™ PRP HPLC Columns

- pH stable range 1-14
- Excellent analyte recovery
- Very rugged, long lasting materials
- Great peak shape for all types on compounds
- Good reproducibility from column to column



VertiSep™ PRP-L21 HPLC columns are 100% Polystyrene Divinylbenzene (PS-DVB) for compatibility with equivalent high efficiency as silica-based C18 columns and pH stable range 1-14. VertiSep™ PRP-L21 columns comply with USP L21 specification and ideal for reverse phase separation of biopharmaceutical and pharmaceutical applications.

VertiSep™ PRP-AQ HPLC columns are Hydroxylated Polystyrene Divinylbenzene (PS-DVB-OH) for difference selectivity by reverse phase or normal phase chromatography. VertiSep™ PRP-AQ columns can be use with 100% water with minimum shrinkage. VertiSep™ PRP-AQ columns are ideal for polar compounds.

VertiSep™ PRP-C18 HPLC columns are Polyvinylalcohol-based C18 for replacement of silica-based C18 columns due to the same separation efficiency and logical elution order. VertiSep™ PRP-C18 columns are stable in pH range 2-13 solutions not possible on silica. Polyvinylalcohol offers minimum shrinkage and swelling. VertiSep™ PRP-C18 columns are ideal for small analytes, peptides and small proteins.

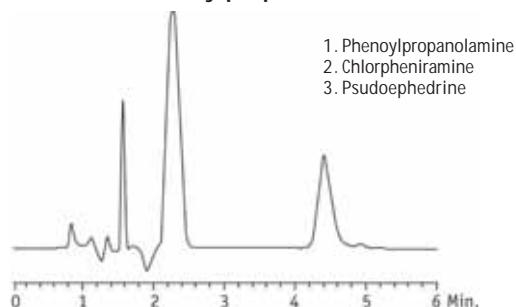
VertiSep™ PRP Packing Specifications

Packing	Particle Size (µm)	Carbon Load (%)	Pore Size (Å)	Surface Area (m <sup>2</sup> /g)	pH Range
PRP-L21	5,10	-	100	500	1-14
PRP-AQ	5	-	100	500	1-14
PRP-C18	5	17	100	500	2-13
PRP-C8	5	10	100	500	2-13
PRP-NH2	5	6	100	500	2-13

VertiSep™ PRP-C8 HPLC columns are polyvinylalcohol-based C8 for replacement of silica-based C8 columns due to the same separation efficiency and logical elution order. VertiSep™ PRP-C8 columns are stable in pH range 2-13 solutions not possible on silica. Polyvinylalcohol offers minimum shrinkage and swelling. VertiSep™ PRP-C8 columns are ideal for small analytes, peptides and small proteins.

VertiSep™ PRP-NH2 HPLC columns are polyvinylalcohol-based NH2 for replacement of silica-based NH2 columns due to the same separation efficiency and logical elution order. VertiSep™ PRP-NH2 columns are stable in pH range 2-13 solutions not possible on silica. Polyvinylalcohol offers minimum shrinkage and swelling. VertiSep™ PRP-NH2 columns are ideal for analysis of saccharides in normal phase like silica-based NH2 columns but longer life-time.

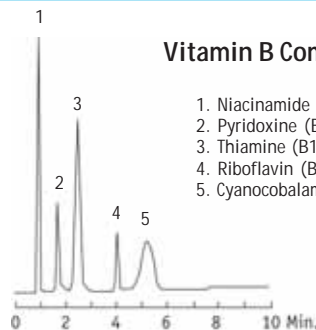
## Phenylpropanolamine



1. Phenylpropanolamine
2. Chlorpheniramine
3. Pseudoephedrine

Column: VertiSep™ PRP-L21 5µm 4.6x150mm  
 Mobile Phase: 20% ACN/65%/Water (with 0.1% TFA)  
 Flow Rate: 1.0mL/min  
 Detection: UV220nm

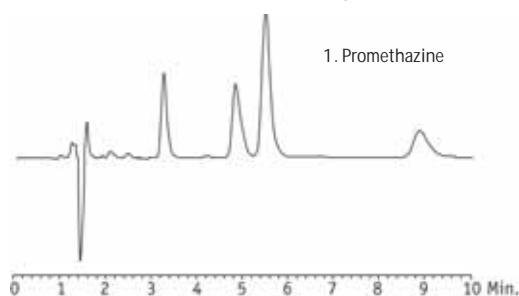
## Vitamin B Complex



1. Niacinamide 10 mg
2. Pyridoxine (B6) 10 mg
3. Thiamine (B1) 10 mg
4. Riboflavin (B2) 10 mg
5. Cyanocobalamin (B12) 10 mg

Column: VertiSep™ PRP-L21 5µm 4.6x150mm  
 Mobile Phase: A) 0.1 N Perchloric Acid  
                   B) Acetonitrile.  
 Gradient: 5-50% B in 10 min  
 Flow Rate: 2.0mL/min  
 Detection: UV at 210 nm

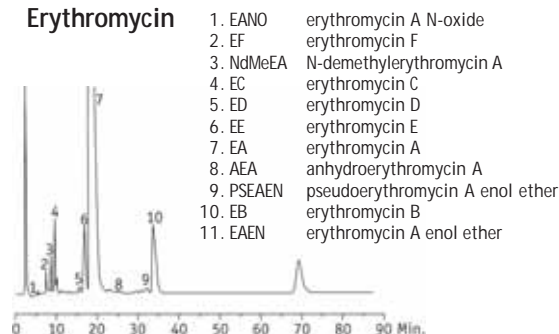
## Promethazine (in Syrup)



1. Promethazine

Column: VertiSep™ PRP-L21 5µm 4.6x150mm  
 Mobile Phase: 35% ACN/65%/Water (with 0.1% TFA)  
 Flow Rate: 1.0mL/min  
 Detection: UV220nm

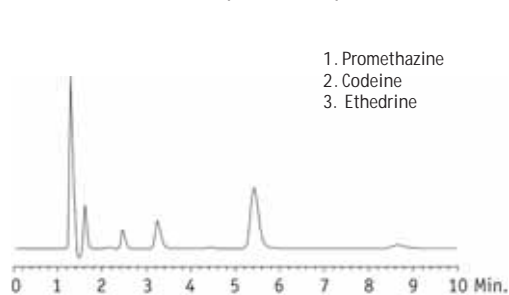
## Erythromycin



1. EANO erythromycin A N-oxide
2. EF erythromycin F
3. NdMeEA N-demethylerythromycin A
4. EC erythromycin C
5. ED erythromycin D
6. EE erythromycin E
7. EA erythromycin A
8. AEA anhydroerythromycin A
9. PSEAEEN pseudoerythromycin A enol ether
10. EB erythromycin B
11. EAEN erythromycin A enol ether

Column: VertiSep™ PRP-L21 5µm 4.6x250mm  
 Mobile Phase: ACN/0.2M K<sub>2</sub>HPO<sub>4</sub>, pH-9/H<sub>2</sub>O: 30/6/64;  
                   v/v to 50/6/44, v/v@50/50  
 Flow Rate: 1.0mL/min  
 Temp: 50°C

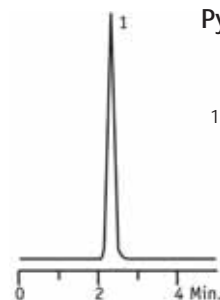
## Promethazine, Codeine, Ethedrine



1. Promethazine
2. Codeine
3. Ethedrine

Column: VertiSep™ PRP-L21 5µm 4.6x150mm  
 Mobile Phase: 35% ACN/65%/Water (with 0.1% TFA)  
 Flow Rate: 1.0mL/min  
 Detection: UV220nm

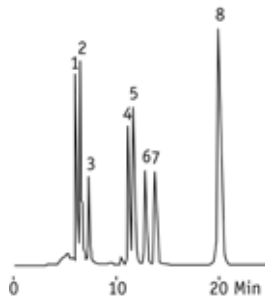
## Pyridinolone



1. Pyridinolone, 3 mg/mL

Column: VertiSep™ PRP-L21 5µm 4.6x150mm  
 Mobile Phase: 1:9 Acetonitrile:Deionized Water with  
                   0.1% Heptafluorobutyric Acid. Isocratic.  
 Flow Rate: 2 mL/min  
 Detection: UV 280 nm  
 Temp: Ambient

### Fat-soluble Vitamins



1. Vitamin K3
2. Vitamin A
3. Vitamin A acetate
4. Vitamin D2
5. Vitamin D3
6. Vitamin E acetate
7. Vitamin E
8. Vitamin K1

Column: VertiSep™ PRP-C18 5µm 4.6x250mm  
 Mobile Phase: CH<sub>3</sub>CN/CH<sub>3</sub>OH=50/50  
 Flow Rate: 0.6mL/min  
 Detection: UV280nm  
 Temp: 30°C

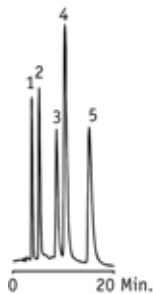
### Hydrochlorothiazide



1. Hydrochlorothiazide

Column: VertiSep™ PRP-C18 5µm 4.6x150mm  
 Mobile Phase: 25mM Sodium Phosphate buffer (pH7.0)/CH<sub>3</sub>CN=60/40  
 Flow Rate: 0.6mL/min  
 Detection: UV254nm  
 Temp: 30°C

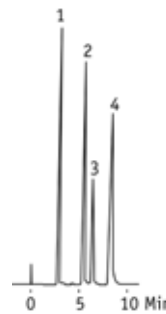
### Steroids



1. Estriol
2. 16-Epiestriol
3. 17α-Estradiol
4. Esterone
5. Progesterone

Column: VertiSep™ PRP-C18 5µm 4.6x150mm  
 Mobile Phase: 65/35 ACN/H<sub>2</sub>O  
 Flow Rate: 0.7mL/min  
 Detection: UV215nm  
 Temp: 25°C

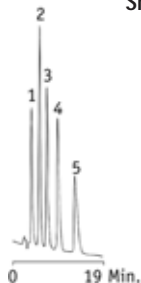
### Drugs



1. 5-Fluorouracil
2. Propranolol
3. Diphenhydramine
4. Hydrocortisone

Column: VertiSep™ PRP-C18 5µm 4.6x150mm  
 Mobile Phase: 25mM Sodium Phosphate buffer (pH3.0)/CH<sub>3</sub>CN=70/30  
 Flow Rate: 0.6mL/min  
 Detection: UV254nm  
 Temp: 30°C

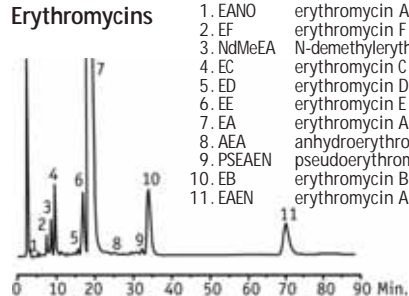
### Short Chain Fatty Acids



1. Propionic Acid
2. Valeric Acid
3. Caproic Acid
4. Enanthic Acid
5. Caprylic Acid

Column: VertiSep™ PRP-C18 5µm 4.6x150mm  
 Mobile Phase: 50/50 ACN/H<sub>2</sub>O/H<sub>3</sub>PO<sub>4</sub>  
 Flow Rate: 0.7mL/min  
 Detection: UV210nm  
 Temp: 25°C

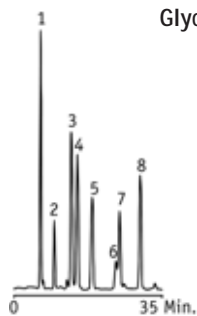
### Erythromycins



1. EANO erythromycin A N-oxide
2. EF erythromycin F
3. NdMeEA N-demethylerythromycin A
4. EC erythromycin C
5. ED erythromycin D
6. EE erythromycin E
7. EA erythromycin A
8. AEA anhydroerythromycin A
9. PSEAEN pseudoerythromycin A enol ether
10. EB erythromycin B
11. EAEN erythromycin A enol ether

Column: VertiSep™ PRP-C18 5µm 4.6x250mm  
 Mobile Phase: ACN/0.2M K<sub>2</sub>HPO<sub>4</sub>, pH-9/H<sub>2</sub>O: 30/6/64; v/v to 50/6/44, v/v@50/50  
 Flow Rate: 1.0mL/min  
 Detection: UV210nm  
 Temp: 50°C

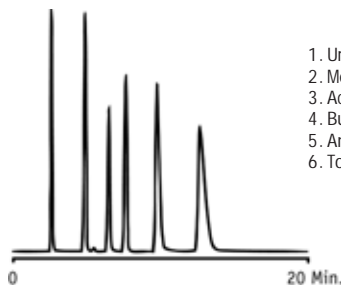
## Glycerol monoesters



1. 6 & 7 Glyceryl Monoricinoleate
2. Glyceryl Monomyristate
3. Glyceryl Monopalmitate
4. Glyceryl Monooleate
5. Glyceryl Monostearate
8. Glyceryl Monolaurate

Column: VertiSep™ PRP-AQ 5µm 4.6x250mm  
 Mobile Phase: 78/22 to 100/0 ACN/H<sub>2</sub>O, 30min  
 Flow Rate: 1.0mL/min  
 Detection: UV 200 nm  
 Temp: 80°C

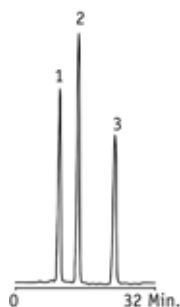
## Reverse Phase Standard Mix



1. Uracil
2. Methylparaben
3. Acetophenone
4. Butylparaben
5. Anisole
6. Toluene

Column: VertiSep™ PRP-AQ 5µm 4.6x250mm  
 Mobile Phase: 30/30/40 THF/ACN/H<sub>2</sub>O  
 Flow Rate: 1.0mL/min  
 Detection: UV 254 nm  
 Temp: Ambient

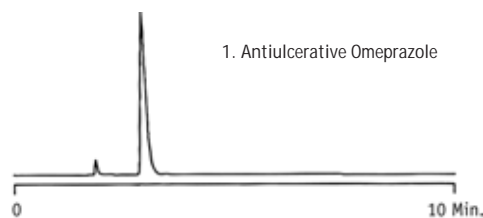
## Slip Agents



1. Oleamide
2. Stearamide
3. Erucamide

Column: VertiSep™ PRP-AQ 5µm 4.6x250mm  
 Mobile Phase: 78/22 to 100/0 ACN/H<sub>2</sub>O, 30min  
 Flow Rate: 1.0mL/min  
 Detection: ELSD  
 Temp: 80°C

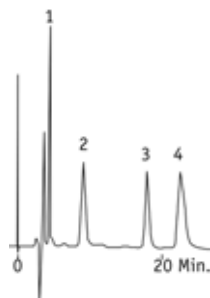
## Antiulcerative Omeprazole



1. Antiulcerative Omeprazole

Column: VertiSep™ PRP-AQ 5µm 4.6x150mm  
 Mobile Phase: 10/20/20/50 MeoH/ACN/THF/H<sub>2</sub>O  
 Flow Rate: 1.0mL/min  
 Detection: UV254nm  
 Temp: 50°C

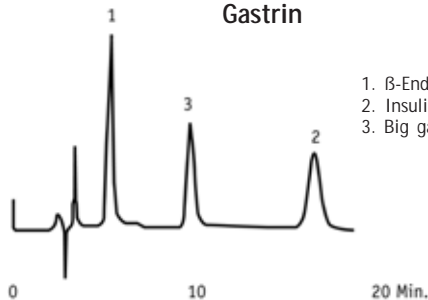
## Peptides



1. Substance P
2. β-Endorphin
3. Insulin B chain
4. Insulin

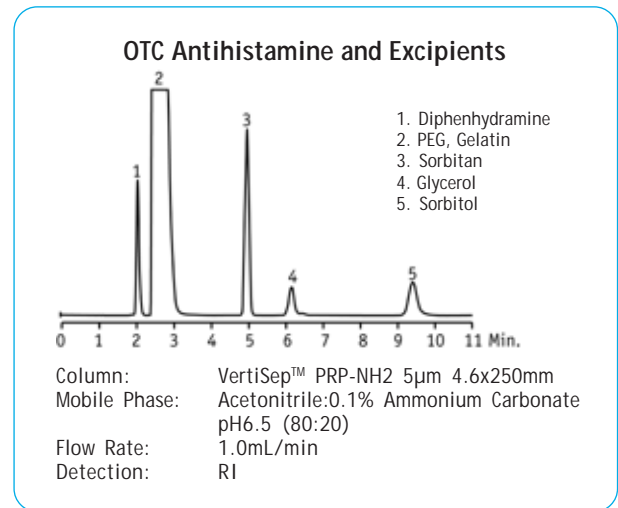
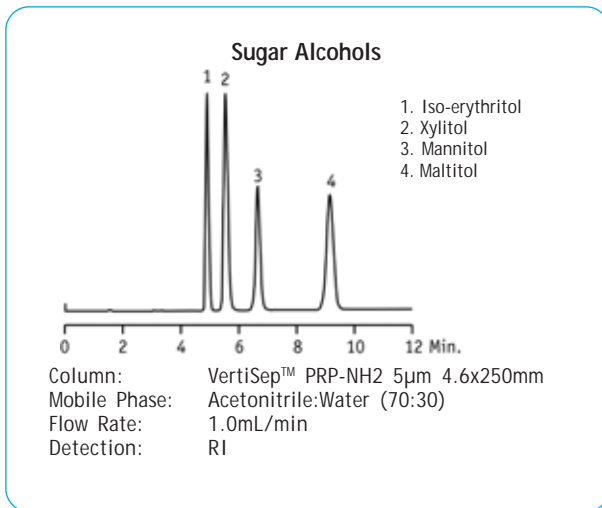
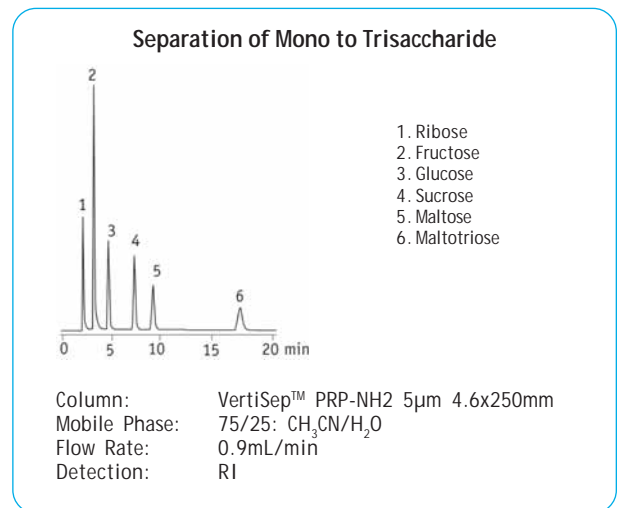
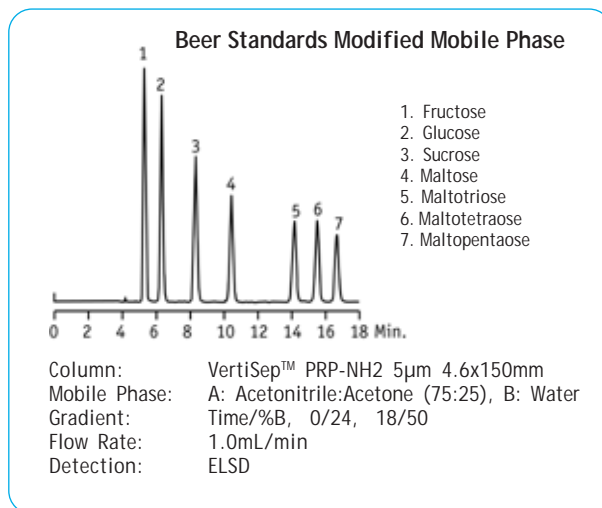
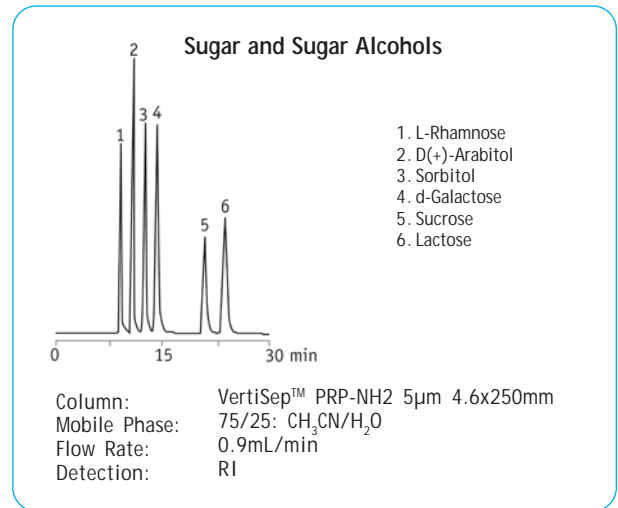
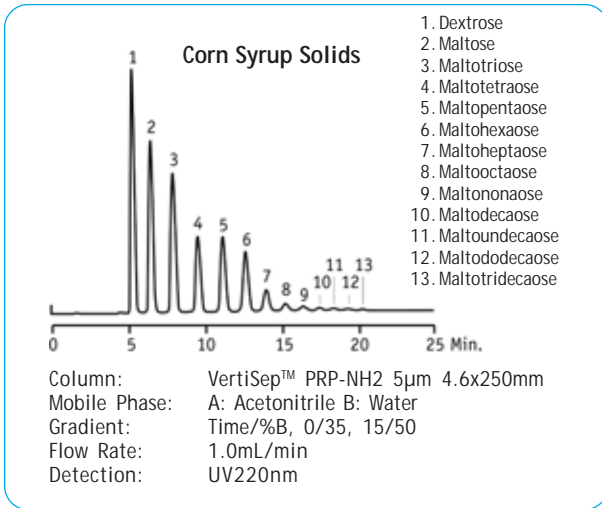
Column: VertiSep™ PRP-C8 5µm 4.6x150mm  
 Mobile Phase: 0.5% TFA aq./CH<sub>3</sub>CN=73/27  
 Flow Rate: 0.6mL/min  
 Detection: UV220nm  
 Temp: 30°C

## Gastrin



1. β-Endorphine
2. Insulin
3. Big gastrin

Column: VertiSep™ PRP-C8 5µm 4.6x150mm  
 Mobile Phase: 0.5% TFA aq./CH<sub>3</sub>CN=72/28  
 Flow Rate: 0.6mL/min  
 Detection: UV220nm  
 Temp: 30°C





### VertiSep™ PRP Columns

Packing	Particle Size (µm)	I.D. Length (mm)	Part No.
PRP-L21	5	4.6 x 150	03LN-E421
	5	4.6 x 250	03LN-E521
	10	4.6 x 150	03LN-E431
	10	4.6 x 250	03LN-E531
PRP-AQ	5	4.6 x 150	03LO-E421
	5	4.6 x 250	03LO-E521
PRP-C18	5	4.6 x 150	03LA-E421
	5	4.6 x 250	03LA-E521
PRP-C8	5	4.6 x 150	03LB-E421
	5	4.6 x 250	03LB-E521
PRP-NH2	5	4.6 x 150	03LF-E421
	5	4.6 x 250	03LF-E521

### VertiSep™ PRP Guard Cartridges\*, 2/PK

Packing	Formats	I.D. Length (mm)	Part No.
PRP-L21	Guard	4.6 x 10	03LN-E123
PRP-AQ	Guard	4.6 x 10	03LO-E163
PRP-C18	Guard	4.6 x 10	03LA-E163
PRP-C8	Guard	4.6 x 10	03LB-E163
PRP-NH2	Guard	4.6 x 10	03LF-E163

\*Guard holder required

### Guard Holder with Coupler

Guard Holder with Coupler	QTY	Part NO.
For column I.D. 2.1-7.8 mm	1	0300-0001

