

Polymer-based Reversed Phase Chromatography Columns (Asahipak)

Features

ODP-50 C4P-50 4D

- Relatively large pore size is suitable for the analysis of amino acids, peptides, and proteins
- Usable in a wide pH range from pH 2 to 13
- Usable in 100 % water and buffer solution
- Best used for the analysis of basic substances
- ODP-50 fulfills USP-NF L67 requirements

• Standard columns

Product Code	Product Name	Plate Number (TP/column)	Functional Group	Particle Size (µm)	Pore Size (Å)	Column Size (mm) I.D. x Length	Shipping Solvent
F7620002	Asahipak ODP-50 6D	≥ 9,000	Octadecyl	5	250	6.0 x 150	H ₂ O/CH ₃ CN = 35/65
F7620001	Asahipak ODP-50 6E	≥ 14,000	Octadecyl	5	250	6.0 x 250	H ₂ O/CH ₃ CN = 35/65
F6710001	Asahipak ODP-50G 6A	(guard column)	Octadecyl	5	—	6.0 x 10	H ₂ O/CH ₃ CN = 35/65
F6710023	Asahipak ODP-50 4B	≥ 2,500	Octadecyl	5	250	4.6 x 50	H ₂ O/CH ₃ CN = 35/65
F7620004	Asahipak ODP-50 4D	≥ 9,000	Octadecyl	5	250	4.6 x 150	H ₂ O/CH ₃ CN = 35/65
F7620003	Asahipak ODP-50 4E	≥ 14,000	Octadecyl	5	250	4.6 x 250	H ₂ O/CH ₃ CN = 35/65
F6710022	Asahipak ODP-50G 4A	(guard column)	Octadecyl	5	—	4.6 x 10	H ₂ O/CH ₃ CN = 35/65
F7620008	Asahipak C4P-50 4D	≥ 6,000	Butyl	5	250	4.6 x 150	H ₂ O/CH ₃ CN = 35/65
F6710003	Asahipak C4P-50G 4A	(guard column)	Butyl	5	—	4.6 x 10	H ₂ O/CH ₃ CN = 35/65

Base Material: Polyvinyl alcohol

• Semi-micro columns

Product Code	Product Name	Plate Number (TP/column)	Functional Group	Particle Size (µm)	Pore Size (Å)	Column Size (mm) I.D. x Length	Shipping Solvent
F7620009	Asahipak ODP-50 2D	≥ 5,000	Octadecyl	5	250	2.0 x 150	H ₂ O/CH ₃ CN = 35/65
F6713001	Asahipak ODP-50G 2A	(guard column)	Octadecyl	5	—	2.0 x 10	H ₂ O/CH ₃ CN = 35/65

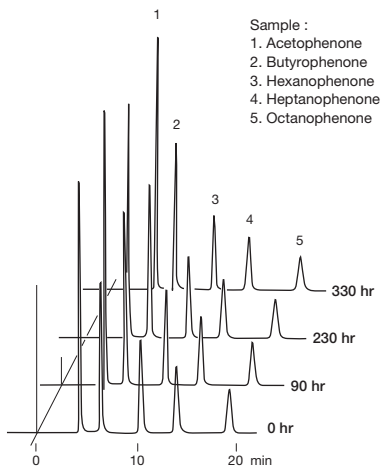
Base Material: Polyvinyl alcohol

• Preparative columns [Preparative columns are made to order.]

Product Code	Product Name	Plate Number (TP/column)	Functional Group	Particle Size (µm)	Column Size (mm) I.D. x Length	Shipping Solvent
F6820001	Asahipak ODP-50 10E	≥ 10,000	Octadecyl	5	10.0 x 250	H ₂ O/CH ₃ CN = 35/65
F6820035	Asahipak ODP-90 20F	≥ 9,000	Octadecyl	9	20.0 x 300	H ₂ O/CH ₃ CN = 35/65
F6710004	Asahipak ODP-130G 7B	(guard column)	Octadecyl	13	7.5 x 50	H ₂ O/CH ₃ CN = 35/65

Base Material: Polyvinyl alcohol

Alkaline tolerance of ODP-50

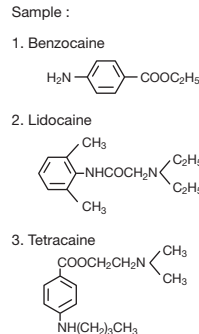
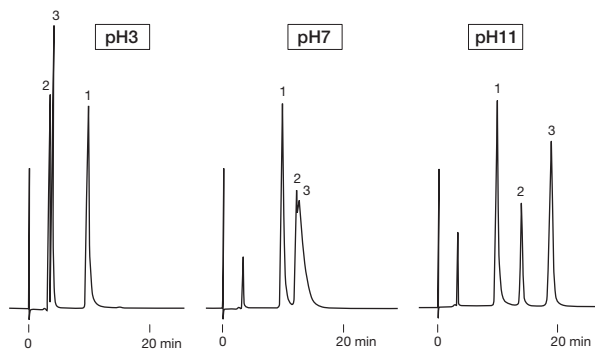


Sample :
 1. Acetophenone
 2. Butyrophenone
 3. Hexanophenone
 4. Heptanophenone
 5. Octanophenone

Column : Shodex Asahipak ODP-50 4D
 Eluent : 10 mM NaOH aq. (pH12.0)/CH₃CN = 35/65
 Flow rate : 0.6 mL/min
 Detector : UV (254 nm)
 Column temp. : 30 °C

Local anesthetics

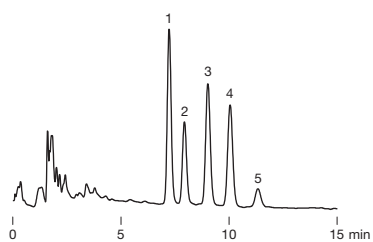
Dissociation of tertiary amino groups in basic drugs can be suppressed by making pH of the eluent higher than pKa of the amino groups. This increases the relative hydrophobicity of the basic drugs, thereby allowing the column to retain the drugs stronger and provide baseline separation of them.



Column : Shodex Asahipak ODP-50 4D
 Eluent : 25 mM Phosphate buffer/CH₃CN = 60/40
 Flow rate : 0.6 mL/min
 Detector : UV (254 nm)
 Column temp. : 30 °C

Unsaturated fatty acids

Sample : 0.002 % each (in Ethanol), 5 µL
 1. EPA (Eicosapentaenoic acid)
 2. α-Linolenic acid
 3. DHA (Docosahexaenoic acid)
 4. Arachidonic acid
 5. Linoleic acid

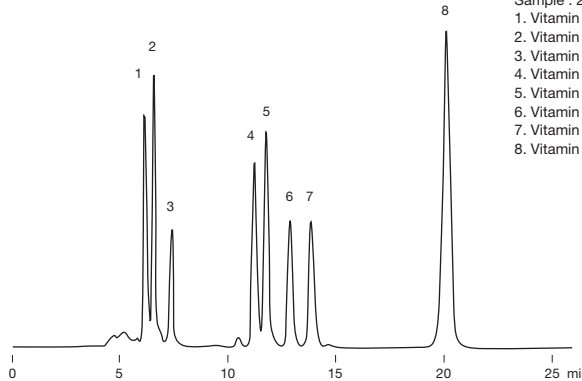


Column : Shodex Asahipak ODP-50 4D
 Eluent : 0.1 % H₃PO₄ in (H₂O/CH₃CN = 30/70)
 Flow rate : 1.0 mL/min
 Detector : UV (215 nm)
 Column temp. : 40 °C

Fat-soluble vitamins

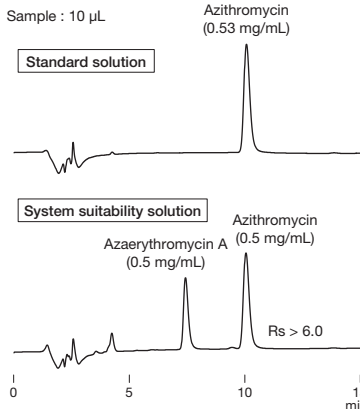
Sample : 20 µL

1. Vitamin K ₃	1.5 µg/mL
2. Vitamin A	0.3 µg/mL
3. Vitamin A acetate	1.9 µg/mL
4. Vitamin D ₂	0.3 µg/mL
5. Vitamin D ₃	0.3 µg/mL
6. Vitamin E acetate	2.4 µg/mL
7. Vitamin E	2.5 µg/mL
8. Vitamin K ₁	2.4 µg/mL



Column : Shodex Asahipak ODP-50 4E
 Eluent : CH₃CN/CH₃OH = 50/50
 Flow rate : 0.6 mL/min
 Detector : UV (280 nm)
 Column temp. : 30 °C

Analysis of azithromycin according to USP-NF method



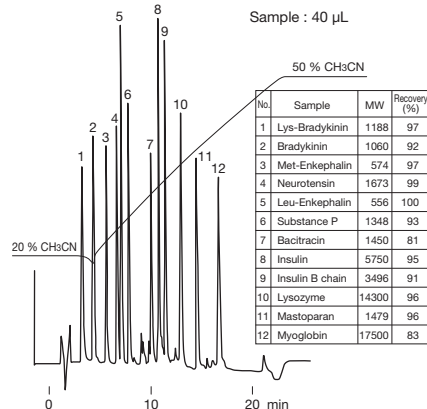
Sample : 10 µL
 Azithromycin (0.53 mg/mL)

Standard solution

System suitability solution
 Azaerythromycin A (0.5 mg/mL)
 Azithromycin (0.5 mg/mL)
 Rs > 6.0

Column : Shodex Asahipak ODP-50 4E
 Eluent : 6.7 g/L Dibasic potassium phosphate aq. (pH11.0 adjusted with 10 M KOH) /CH₃CN = 40/60
 Flow rate : 1.0 mL/min
 Detector : UV (210 nm)
 Column temp. : 40 °C

Gradient analysis of proteins and peptides



Sample : 40 µL

Column : Shodex Asahipak ODP-50 6D
 Eluent : (A); 0.05 % TFA aq./CH₃CN = 80/20 (B); 0.05 % TFA aq./CH₃CN = 50/50
 Linear gradient; (A) to (B), 20 min
 Flow rate : 1.0 mL/min
 Detector : UV (220 nm)
 Column temp. : 30 °C