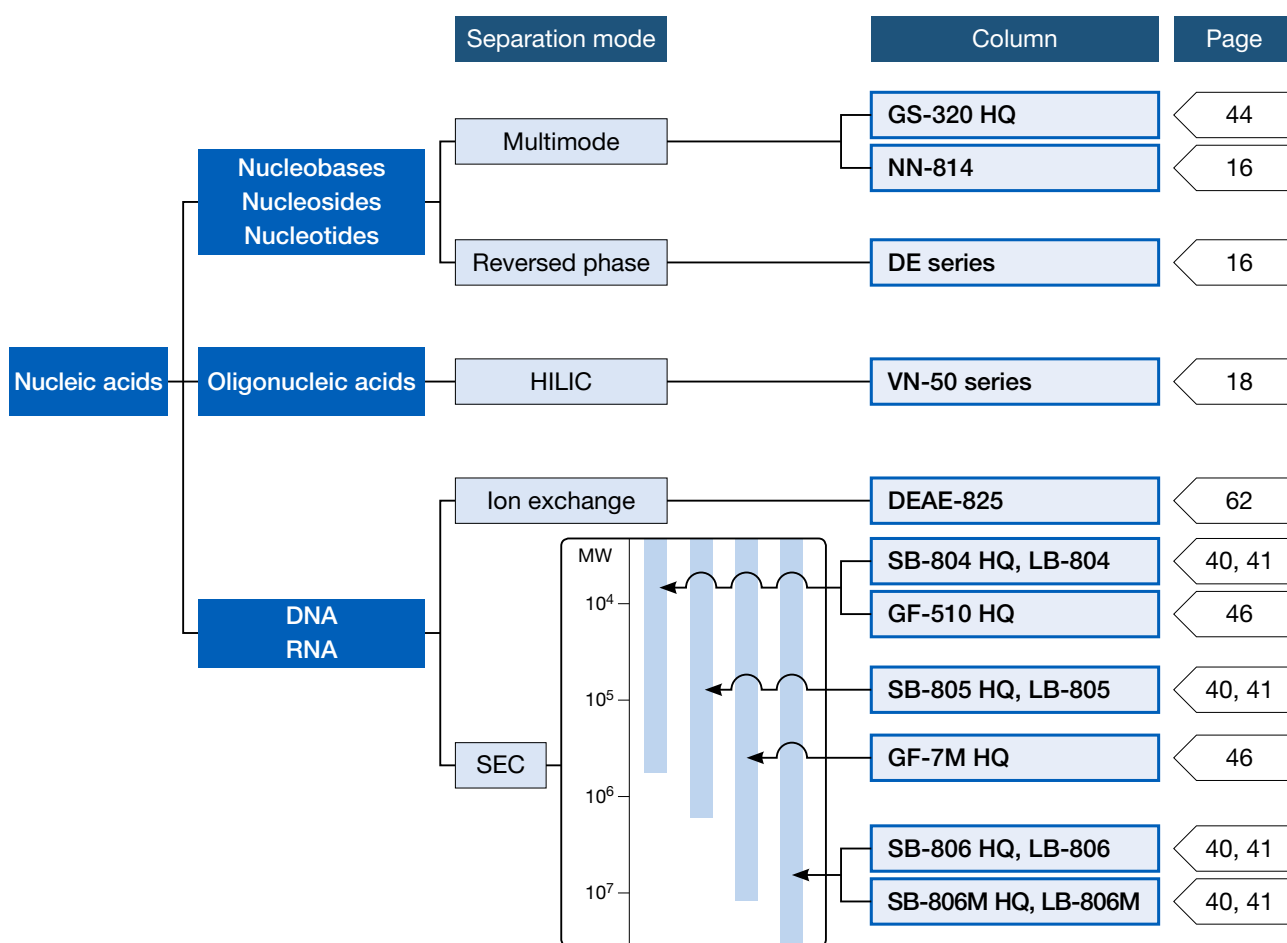
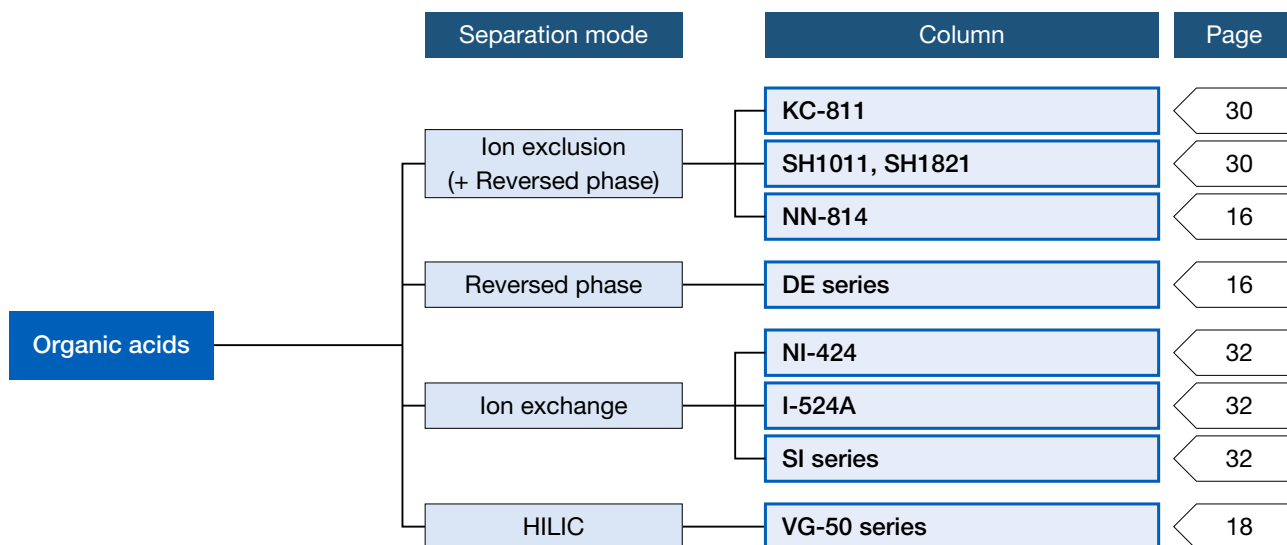


Column Selection (Nucleic Acids)



Column Selection (Organic Acids)



Column Selection (Drugs, Metabolites and Chiral Compounds)

	Separation mode	Column	Page	
Drugs Metabolites	Reversed phase	ODP2 HP	12	
		ODP-50 series, C4P-50 4D	14	
		DS-413, DS-613	16	
		DE series	16	
		C18M, C18U	24	
	HILIC	VC-50 2D	18	
		VT-50 2D	18	
		NH2P series	22	
	Ion exchange	NI-424	32	
		I-524A	32	
		YK-421	33	
		ES-502C 7C	62	
		Multimode	GS-320 HQ	44
	Chiral compounds	Chiral separation	CDBS-453	64

Column Selection (Vitamins, Hormones / Neurotransmitters and Lipids)

	Separation mode	Column	Page
Water-soluble vitamins	Reversed phase	ODP-50 series	14
		DE series	16
		DM-614	16
		C18M, C18U	24
	HILIC	VG-50 series	18
		VT-50 2D	18
		NH2P series	22
Multimode	NN-814	16	
Fat-soluble vitamins	Reversed phase	ODP-50 series	14
		C18M, C18U	24
	SEC	KF-801, KF-401HQ	48, 52
Hormones / Neurotransmitters	Reversed phase	ODP-50 series	14
		DE series	16
		C18M, C18U	24
		SB-802.5 HQ, LB-802.5	40, 41
	HILIC	VC-50 2D	18
		VT-50 2D	18
		NH2P series	22
	Ion exchange	ES-502N 7C	62
		ES-502C 7C	62
Lipids	Reversed phase	ODP-50 series	14
		DS-413, DS-613	16
		DE series	16
	SEC	GF-310 HQ	46
		KF-801, KF-802, KF-802.5	48
		KF-402HQ	52

Polymer-based Reversed Phase Chromatography Columns (Asahipak)

<https://www.shodex.de/asahipak-odp-50-columns>

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

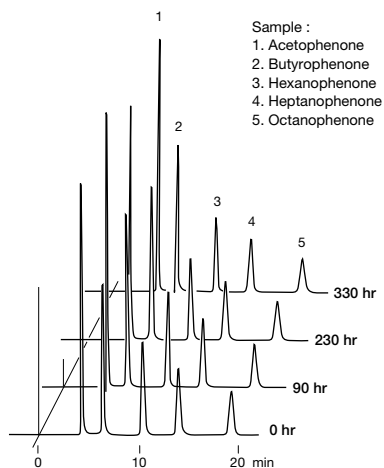
Base Material: Polyvinyl alcohol

• 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

Base Material: Polyvinyl alcohol

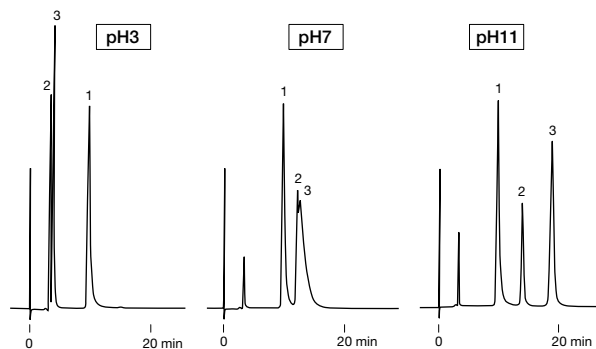
Alkaline tolerance of ODP-50



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.

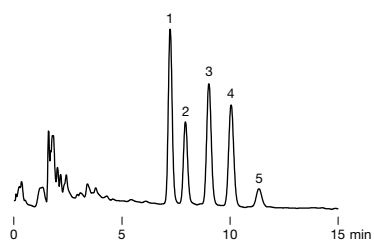


Column : Shodex Asahipak ODP-50 4D
 Eluent : 25 mM Phosphate buffer/CH₃CN = 60/40
 Flow rate : 0.6 mL/min
 Detector : UV (254 nm)
 Column temp. : 30 °C

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

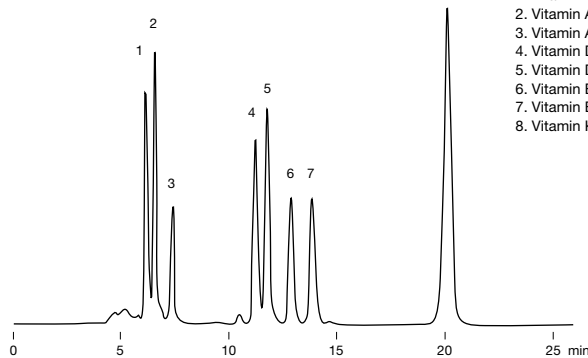


Column : Shodex Asahipak ODP-50 4D
 Eluent : 0.1 % H₃PO₄ in (H₂O/CH₃CN = 30/70)
 Flow rate : 1.0 mL/min
 Detector : UV (215 nm)
 Column temp. : 40 °C

Fat-soluble vitamins

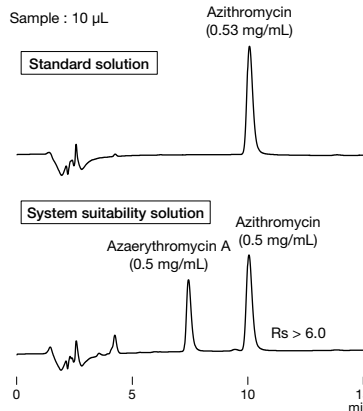
Sample : 20 µL

1. Vitamin K₃ 1.5 µg/mL
2. Vitamin A 0.3 µg/mL
3. Vitamin A acetate 1.9 µg/mL
4. Vitamin D₂ 0.3 µg/mL
5. Vitamin D₃ 0.3 µg/mL
6. Vitamin E acetate 2.4 µg/mL
7. Vitamin E 2.5 µg/mL
8. Vitamin K₁ 2.4 µg/mL



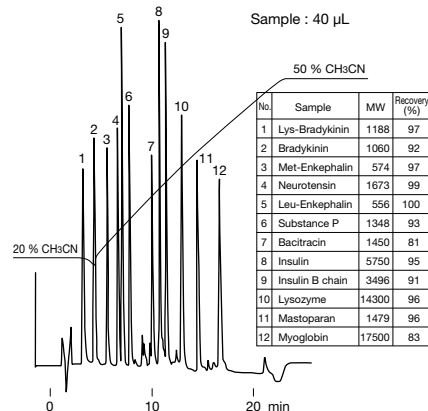
Column : Shodex Asahipak ODP-50 4E
 Eluent : CH₃CN/CH₃OH = 50/50
 Flow rate : 0.6 mL/min
 Detector : UV (280 nm)
 Column temp. : 30 °C

Analysis of azithromycin according to USP-NF method



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



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