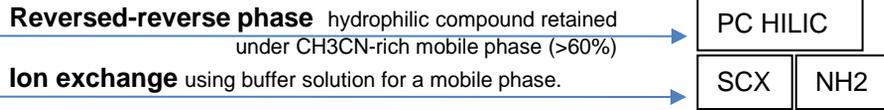
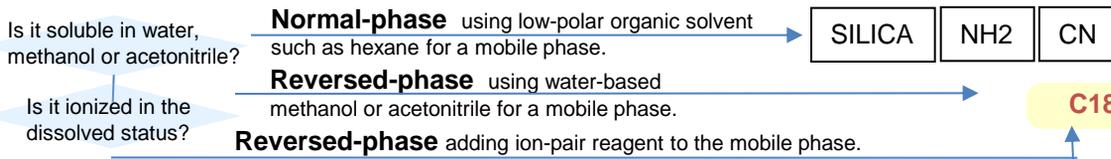


Lower-molecular compounds



C18 Columns

	Size (um)	Pore (nm)	Specific Area (m ² /g)	C%	Density (umol/m ²)	pH range			
CAPCELL CORE	2.7	9	150	7	2.9	1.5-10	USP L1	B MS	
	<ul style="list-style-type: none"> Core-shell applied polymer-coating technology. High NTP derived by short diffusion paths. Excellent separation property for basic compounds with excellent durability. 60Mpa-resistant. 								
MGII	3 (5)	10	300 (260)	15	2.3 (2.7)	2-10	USP L1	B MS	
	<ul style="list-style-type: none"> A first choice if C₁₈ column. First C₁₈ optimized for basic compounds under neutral condition. The world's best blocking of silanol group by applying Ultimate Polymer Coating. Best balance between polarity and hydrophobicity of the packing material surface. Excellent separation property for in any conditions. Use of silica substrates with less micropores increases the effective specific surface. 								
MGIII, MGIII-H	3 (5)	10	300 (260)	15	2.3 (2.7)	2-10	USP L1	B MS	
	<ul style="list-style-type: none"> Improves the lot repeatability of basic compound retention under acid conditions. Low bleeding ideal for MS analysis under acid conditions. MGIII-H is 50Mpa-resistant 								
IF (1.8um) IF2 (2.2um)	1.8/2.2	12	340	14	1.9	2-9	USP L1	B MS HPR	
	<ul style="list-style-type: none"> Optimized Sub2um columns. Pressure resistance, IF=40Mpa, IF2=100Mpa Reduces the influence of silanol to the extreme. Realizes the good peak shape for basic compounds. 								
UG120	3 (5)	12	300	15	2.3	2-10	USP L1	MC	
	<ul style="list-style-type: none"> Extremely low-polar packing material surface Reduces the secondary effect of silica gel with precise polymer coating. 								
MG	3 (5)	10	300 (260)	15	2.3 (2.7)	2-10	USP L1	MC	
	<ul style="list-style-type: none"> Best balance between polarity and hydrophobicity of the packing material surface. Inhibits the influence of metal coordination. 								
AQ	3 (5)	8	330 (300)	12 (11)	1.7	2-9	USP L1	P	
	<ul style="list-style-type: none"> Increase the surface polarity by reducing the rate of C₁₈ group introduction. C₁₈ column applicable even 100% water-based phase. 								
ACR	3 (5)	8	300	17	2.6	1-10	USP L1	A PH	
	<ul style="list-style-type: none"> World's best acid resistance High stereoselectivity derived from polymeric bonding. 								
UG80	5	8	340	18	2.5	2-10	USP L1		
	<ul style="list-style-type: none"> The specific surface is high and retention is large due to a small micropore diameter same as UG120. Perfect for preparation HPLC because of the high loadability. 								

Others

	Size (um)	Pore (nm)	Specific Area (m ² /g)	C%	Density (umol/m ²)	pH range			
PC HILIC	5	10	450	-	-	3-7.5	P	MS	
	<ul style="list-style-type: none"> A column for hydrophilic interaction chromatography. Retains polar compounds with acetonitrile of 60% or more. 								
CR (C18+SCX) (1/4: 1/20: 1/50)	3 (5)	10-12	-	-	-	2-7	B	MS	
	<ul style="list-style-type: none"> Mixed stationary phases of SCX and C₁₈. Prepares columns of different ratios of SCX and C₁₈. 								
C8 DD	3 (5)	8	300	11	3.8	1.5-10	USP L7	PH	
	<ul style="list-style-type: none"> Introducing C₈ group as a functional group. Excellent acid and alkaline resistance. Lot-to-lot reproducibility comparable to C₁₈ column. 								
Ph CN	5	12	300	8 (5)	3.7 (13.9)	2-10	USP L11	AR	
	<ul style="list-style-type: none"> Different functional groups of UG120 type. Advantages of polymer coating is intact (good durability). 								
NH2 SCX	5	8	540 (450)	14 (9)	1.2 (0.9)	2-8 (2-7)	USP L8	A	
	<ul style="list-style-type: none"> Different functional groups of UG120 type. Advantages of polymer coating is intact (good durability). 								

Alternative way for the highest efficiency at fast analysis with low pressure in HPLC/UHPLC
 .For Improved separation including basic compound

.For multicomponent analysis with a variety of characteristics
 .For analysis of basic compounds under neutral condition
 .For high flow rate/high-speed analysis
 For LC-MS analysis

.For LC-MS analysis / UHPLC-MS(MGIII-H)
 .For basic compound analysis under acid conditions

.For high flow rate/high-speed analysis under high-pressure condition
 .For pursuit of high separation capacity for rapid analysis with HPLC

.For separation of hydrophobic compounds
 .For change of separation patterns

.For multicomponent analysis with a variety of characteristics
 .Especially for analysis including coordination compounds

.For analysis of polar compounds
 .For short-time analysis of hydrophobic compounds

.For analysis under acid condition for semi aliquoting in continuous use

.For review of analytical conditions aiming at aliquoting
 .For improving separation of hydrophobic compounds

.For compounds that can not be retained by C₁₈
 .For LC-MS analysis

.For multicomponent analysis including basic compounds
 .For analysis of LC-MS (no ion-pairs are necessary)

.For multicomponent analysis including polar compounds
 .For shortening the analysis time

.For multicomponent analysis including aromatic rings
 .For change of separation patterns

.For analysis of polar compounds
 NH₂: Normal phase-anion exchange
 SCX: Cation exchange

Column introduction by sample

Sugar

SUCREBEAD //	Separation is achieved by using electro static action between the negative charge generated by dissociation of sugar hydroxyl under alkaline mobile phase condition and the positive charge of the quaternary ammonium on the packing material surface. Flow of the alkaline mobile phase allows direct electrochemical detection.	For polysaccharide analysis For oligosaccharide analysis For disaccharide analysis
SUCREBEAD /	<ul style="list-style-type: none"> Styrene-divinylbenzene-based polymer columns. Strong anion exchange column by the quaternary ammonium. 	For monosaccharide analysis For analysis of disaccharide and oligosaccharide For analysis of sugar alcohol
NH2	Retains and separates sugars in the normal phase mode. The mobile phase is with water/CH3CN. To apply it to a pulse electrochemical detector, pH balanced solution is mixed with post column. <ul style="list-style-type: none"> pH durability improves with contribution of polymer coating. The bridged structure of polyamine allows longer retention and good durability. 	For analysis of derivatized sugar
C18 column (AQ etc.)	Retains and separates derivatized sugar in the reversed phase.	

Nucleic acid

Nucleonavi	Perfect for analysis of DNA and RNA of 20-40 mer. <ul style="list-style-type: none"> Inert specification unaffected by metal. Eliminates wall effect by the glass-clad structure. Reduced absorption compared to particulate columns. 	For DNA/RNA analysis
MGII AQ	Retention and separation by hydrophobic interaction under water-rich condition. AQ allows analysis in the 100% water-based phase (buffer).	For nucleotide analysis For nucleoside analysis For analysis of nucleic-acid bases
PC HILIC	Retains and separates nucleic acid and nucleic-acid base by hydrophilic interaction. Acetonitrile of 60% or more are used for the mobile phase.	
NH2	Retained and separated by the anion exchange mode. Buffer is used for the mobile phase.	
SCX	Retained and separated by the cation exchange mode. Buffer is used for the mobile phase.	

Proteins and peptides

Proteonavi (Wide pore columns)	Follows up retention and separation of peptides and proteins. A column with large retention of proteins and peptides despite the functional group of C4. <ul style="list-style-type: none"> Excellent acid resistance. Excellent recovery rate. 	Under acid condition, For analysis of high-molecular compounds For analysis and review of aliquoting
SG300 C18, C8, C1 (Wide pore columns)	Columns for analysis of proteins and peptides with the molecular weight of 10,000 or more. Give a first choice to C8. A lineup of semi-micro columns is available.	For analysis of small amount samples For micro HPLC analysis
ACR, C8DD, etc.	For improving durability of the acid mobile phase analysis including TFA such as peptide mapping. A lineup of micro columns is available.	

Biological samples

MF series C8, Ph, SCX	A column that deproteination is available on line. Proteins with heavier molecular weight are eluted first in the size elimination mode. The target component is retained by other separation modes. In addition to the analysis columns, a lineup of cartridge columns for column switching is available. <ul style="list-style-type: none"> Retention using hydrophobic interaction: in descending order of hydrophobicity, C8 > Ph Retention using ion exchange function for basic compounds: SCX 	For analysis of drugs and metabolites in biological samples For low-molecular compound analysis in high molecular Pretreatment columns in the column switching method
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Optical resolution columns

Chiral CD-Ph	A column that cyclodextrin (CD) is combined as a chiral selector. Retention by hydrophobic interaction can be obtained by phenylcarbamating CD. The hit rate is high among basic and neutral compounds including a benzene ring.
Ceramospher RU-2 Ceramospher RU-1	An optical resolution column based on clay mineral. A heavy load can be processed because it has the layered interaction field. Rutenium complex is used for a chiral selector. Customized specification of a different elution order is also available.



SHISIEDO CO.,LTD
Frontier Science Business division

URL: <http://hplc.shiseido.co.jp/main/>

- B** Excellent for retention and peak shape
- P** Suitable for retention of polar compounds
- MC** Excellent peak shape of metal-coordination compounds
- A** Suitable for retention of acid compounds
- AR** Suitable for retention of compounds with aromatic rings
- HPR** High pressure resistance of 40MPa
- MS** Suitable for use in MS
- pH** Excellent pH resistance