The packed column for HPLC

Develosil XG-CN

The 3rd phase "XG-CN" of Develosil XG series
Improvement point： The durability over acetonitrile was improved sharply.

1. The trait of Develoseil XG-CN

Silica base

This product modify the cyanopropyl group based on a high grade silica gel.

The column which it is easy to use

As for this column, equilibrium is early and the pressure is low, too.
In addition, even a normal phase is available in the reverse phase.

Characteristic of Develosil XG-CN

Surface area	300 m^2/g
Pore diameter	14nm
Pore volume	1.10 mL/g
Ligand	Cyanopropyl
Carbon content	7.50%
Endcapping	○
pH range	pH 1.5 - 8

Stability

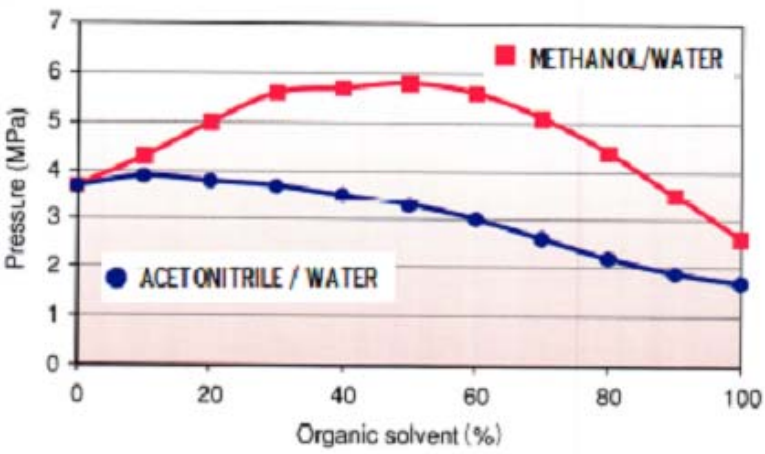
Develosil keeps high stability to undertake all processes in own company.

Use solvent

Compared with the conventional CN column, the durability over acetonitrile improves considerably.
In addition, I do not choose the kind of the solvent.

2. Performance of Develosil XG-CN

◆Organic solvent composition and a pressure



Conditions;

Column	Develosil XG-Cn (5um)
Size	I.D. 4.6 x 150 mm
Mobile Phase	CAN / Water (●) MeOH / Water (■)
Flow rate	1.0 ml/min
Temperature	40℃

Develosil XG series shows low pressure conventionally. This became an ease of use column. The flow rate of the above terms can be raised and used. And, a solvent with high viscosity can also be used.

◆Use by acetonitrile is possible

In the conventional CN column, the specification of acetonitrile had restriction.
In Develosil XG-CN, the durability over acetonitrile is improving greatly. I can thereby use it without a problem.

Difference

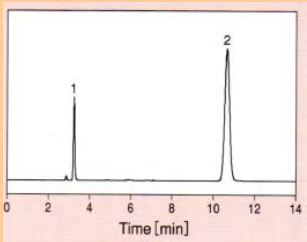
Develosil CN-UG	
Time of shipment Performance test	MeOH / Water

Develosil XG-CN	
Time of shipment Performance test	**ACN / Water**

The MeOH system was used for the performance test at the time of shipment until now. But in Develosil XG-CN, the performance test is done with the solvent of an ACN system.

3. Develosil XG-CN performance evaluation

Performance evaluation of time of shipment.

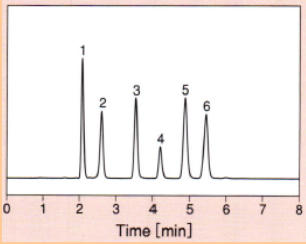


Conditions;
Column : Develosil® XG-CN (5um)
Size : 4.6x150mm
Mobile Phase : ACN/Water=50/50
Flow rate : 1.0ml/min
Temperature : 30℃
Detection : UV254nm
Sample : 1. Benzene
2. 1,3,5 Triphenyl benzene

※Time of shipment solvent
ACN / Water = 50 / 50

Time of shipment performance test is evaluated in an ACN system.
Only the column which passed the basis is shipped.

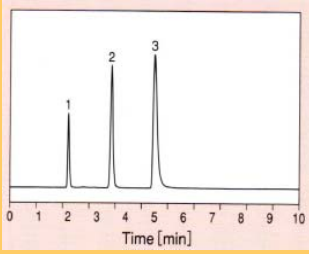
Hydrogen bonding capacity・Hydorphobicity ・Surface polarity



Conditions;
Column : Develosil® XG-CN (5um)
Size : 150x4.6mm
Mobile Phase : CH_3OH/Water (30:70)
Flow rate : 1.0ml/min
Temperature : 40℃
Detection : UV 254nm
Sample : 1. Uracil／2. Caffeine
3. Phenol／4. Benzene
5. Methyl benzoate／6. Toluene

Hydrogen bonding capacity α"Caffeine/Phenol", hydrophobicity α"Toluene/Benzene", and surface polarity α"Methyl Benzoate/Toluene) are estimation.

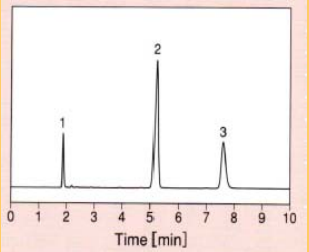
Plane selectivity



Conditions;
Column : Develosil® XG-CN (5um)
Size : 4.6x150mm
Mobile Phase : MeOH/Water=65/35
Flow rate : 1.0ml/min
Temperature : 40℃
Detection : UV254nm
Sample : 1. Uracil／2. o-Terphenyl
3. Triphenylene

Plane selectivity α "Triphenylene/o-Terphenyl" is estimation.

Coordinate compounds

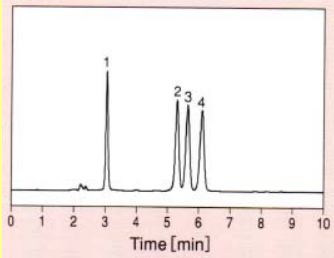


Conditions;
Column : Develosil XG-C18M (5um)
Size : 150x4.6mm
Mobile Phase : CH_3CN/0.2% H_3PO_4 (35:65)
Flow rate : 1.0ml/min
Temperature : 40℃
Detection : UV254nm
Sample : 1. Uracil／2. Toluene
3. Quinizarine

Plane selectivity α "Quinizarine/Toluene" is estimation.

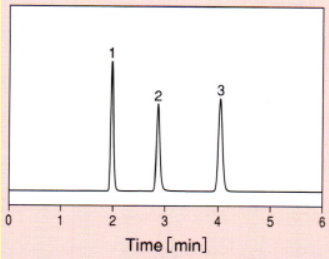
4.Application data

Analysis of steroid



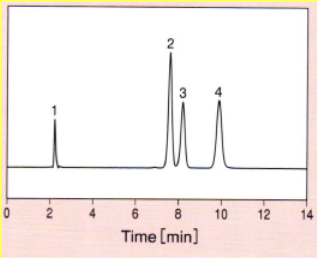
Conditions;
Column : Develosil® XG-CN (5um)
Size : 4.6x150mm
Mobile Phase : ACN/Water=35/65
Flow rate : 1.0ml/min
Temperature : 40℃
Detection : UV210nm
Sample : 1. Estriol (0.13mg/ml)
2. β-Estradiol (0.13mg/ml)
3. 17α-Estradiol (0.13mg/ml)
4. Estrone (0.13mg/ml)
Injection volume : 3.0uL

Analysis of a base compound



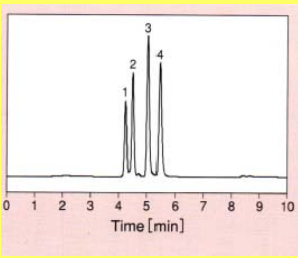
Conditions;
Column : Develosil XG-C18M (5um)
Size : 150x4.6mm
Mobile Phase : CH_3CN/50mM Ammonium Acetate (pH7.0) (20/80)
Flow rate : 1.0ml/min
Temperature : 40℃
Detection : UV254nm
Sample : 1. Uracil (0.08mg/ml)
2. Pyridine (0.13mg/ml)
3. Phenol (0.21mg/ml)

Analysis of Acidic compunds



Conditions;
Column : Develosil® XG-CN (5um)
Size : 4.6x150mm
Mobile Phase : ACN/0.2% Phosphoric acid=2/98
Flow rate : 1.0ml/min
Temperature : 40℃
Detection : UV254nm
Sample : 1. Ascorbic acid (0.02mg/ml)
2. Benzoic acid (0.16mg/ml)
3. Acetylsalicylic acid (0.16mg/ml)
4. Salicylic acid (0.16mg/ml)
Injection volume : 2.0uL

The example of analysis using normal phases system solvent



Conditions;
Column : Develosil® XG-CN (5um)
Size : 4.6x150mm
Mobile Phase : Heptane
Flow rate : 1.0ml/min
Temperature : 30℃
Detection : UV254nm
Sample : 1. Anthracene (0.03mg/ml)
2. Pyrene (0.51mg/ml)
3. Chrysene (0.26mg/ml)
4. Benzo [a] Pyrene (0.26mg/ml)
Injection volume : 10uL

Use by a normal phases can be performed also in Develosil XG-CN. Specification of a "reversed phase" and a "normal phases" is possible at the time of an order.

5. Price List

I.D.2.0mm,3.0mm,4.0mm same price

Convention columns

■ Conventiona columns 【Reversed phase】

Packing name	Column Size	Particle size	P/N
XG-CN	I.D 4.6x35mm	3	XGCN346035W
	I.D 4.6x50mm		XGCN346050W
	I.D 4.6x75mm		XGCN346075W
	I.D 4.6x100mm		XGCN346100W
	I.D 4.6x150mm		XGCN346150W
	I.D 4.6x250mm		XGCN346250W
	I.D 4.6x35mm	5	XGCN546035W
	I.D 4.6x50mm		XGCN546050W
	I.D 4.6x75mm		XGCN546075W
	I.D 4.6x100mm		XGCN546100W
	I.D 4.6x150mm		XGCN546150W
	I.D 4.6x250mm		XGCN546250W

● Guard column for conventiona 【Reversed phase】

Packing name	P/N
Gurad cartridge(4piceces) 4.0x10mm	XGCN540010C
Holder 4.0x10mm	HO00040010C
Guard cartridge set ※	XGCN540010W

※ Guard cartridge set = Holder (1piece) + cartridge 4.0x10mm (1piece)

◆ Conventiona columns 【Normal phase】

Packing name	Column Size	Particle size	P/N
XG-CN	I.D. 4.6x35mm	3	XGCN346035WN
	I.D. 4.6x50mm		XGCN346050WN
	I.D. 4.6x75mm		XGCN346075WN
	I.D. 4.6x100mm		XGCN346100WN
	I.D. 4.6x150mm		XGCN346150WN
	I.D. 4.6x250mm		XGCN346250WN
	I.D. 4.6x35mm	5	XGCN546035WN
	I.D. 4.6x50mm		XGCN546050WN
	I.D. 4.6x75mm		XGCN546075WN
	I.D. 4.6x100mm		XGCN546100WN
	I.D. 4.6x150mm		XGCN546150WN
	I.D. 4.6x250mm		XGCN546250WN

● Guard column for conventiona 【Normal phase】

Packing name
Gurad cartridge(4piceces) 4.0x10mm
Holder 4.0x10mm
Guard cartridge set ※

※ Guard cartridge set = Holder (1piece) + cartridge 4.0x10mm (1piece)

Semi-micro columns

■ Semi-micro columns 【Reversed phase】

Packing name	Column Size	Particle size	P/N
XG-CN	I.D. 2.0x35mm	3	XGCN320035W
	I.D. 2.0x50mm		XGCN320050W
	I.D. 2.0x75mm		XGCN320075W
	I.D. 2.0x100mm		XGCN320100W
	I.D. 2.0x150mm		XGCN320150W
	I.D. 2.0x250mm		XGCN320250W
	I.D. 2.0x35mm	5	XGCN520035W
	I.D. 2.0x50mm		XGCN520050W
	I.D. 2.0x75mm		XGCN520075W
	I.D. 2.0x100mm		XGCN520100W
	I.D. 2.0x150mm		XGCN520150W
	I.D. 2.0x250mm		XGCN520250W

● Guard column for Semi-micro 【Reversed phase】

Packing name	P/N
Gurad cartridge(4piceces) 1.5x10mm	XGCN515010CN
Holder 1.5x10mm	HO00015010C
Guard cartridge set ※	XGCN515010WN

※ Guard cartridge set = Holder (1piece) + cartridge 1.5x10mm (1piece)

◆ Semi-micro columns 【Normal phase】

Packing name	Column Size	Particle size	P/N
XG-CN	I.D. 2.0x35mm	3	XGCN320035WN
	I.D. 2.0x50mm		XGCN320050WN
	I.D. 2.0x75mm		XGCN320075WN
	I.D. 2.0x100mm		XGCN320100WN
	I.D. 2.0x150mm		XGCN320150WN
	I.D. 2.0x250mm		XGCN320250WN
	I.D. 2.0x35mm	5	XGCN520035WN
	I.D. 2.0x50mm		XGCN520050WN
	I.D. 2.0x75mm		XGCN520075WN
	I.D. 2.0x100mm		XGCN520100WN
	I.D. 2.0x150mm		XGCN520150WN
	I.D. 2.0x250mm		XGCN520250WN

● Guard column for Semi-micro 【Normal phase】

Packing name	P/N
Gurad cartridge(4piceces) 1.5x10mm	XGCN515010C
Holder 1.5x10mm	HO00015010C
Guard cartridge set ※	XGCN515010W

※ Guard cartridge set = Holder (1piece) + cartridge 1.5x10mm (1piece)

5. Price List

Prep columns

■ Prep columns 【Reversed phase】

Packing name	Column Size	Particle size	P/N
XG-CN	I.D. 10.0x150mm	5	XGCN5P1150W
	I.D. 10.0x250mm		XGCN5P1250W
	I.D. 20.0x150mm		XGCN5P2150W
	I.D. 20.0x250mm		XGCN5P2250W

● Prep guard column 【Reversed phase】

Packing name	Column Size	P/N
XG-CN	I.D. 8.0x10mm (for I.D. 10.0mm)	XGCN580010W
	I.D. 20.0x50mm	XGCN5P2050W
The above goods are not cartridge type things.		
It becomes a packing guard column.		

◆ Prep columns 【Normal phase】

Packing name	Column Size	Particle size	P/N
XG-CN	I.D. 10.0x150mm	5	XGCN5P1150WN
	I.D. 10.0x250mm		XGCN5P1250WN
	I.D. 20.0x150mm		XGCN5P2150WN
	I.D. 20.0x250mm		XGCN5P2250WN

● Prep guard column 【Normal phase】

Packing name	Column Size	P/N
XG-CN	I.D. 8.0x10mm (for I.D. 10.0mm)	XGCN580010WN
	I.D. 20.0x50mm	XGCN5P2050WN
The above goods are not cartridge type things.		
It becomes a packing guard column.		