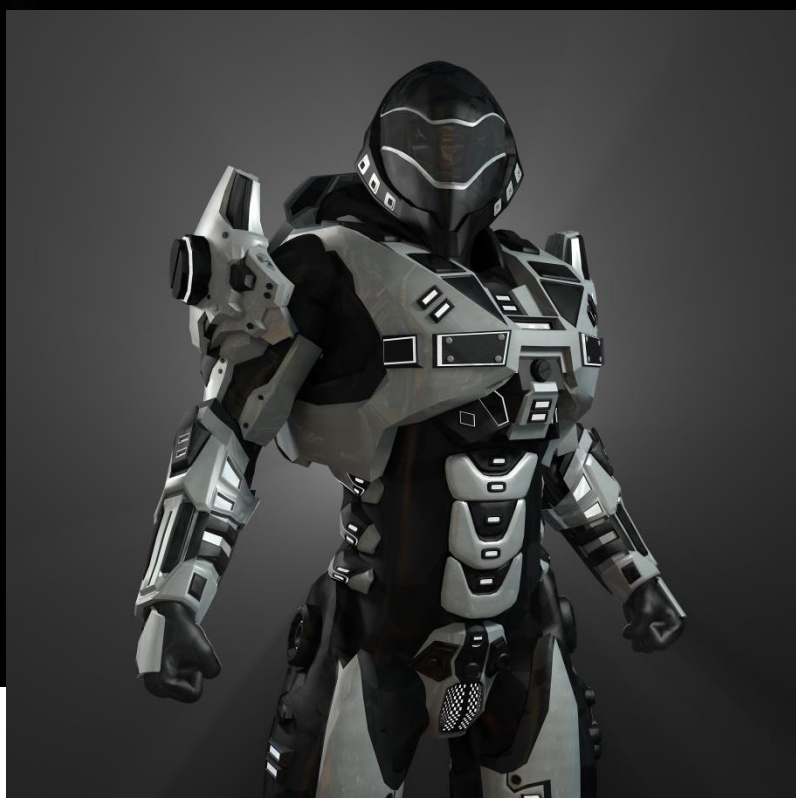
HPLC column

SunArmor

サンアーマー　**SunArmor**



Innovations United

SunArmor

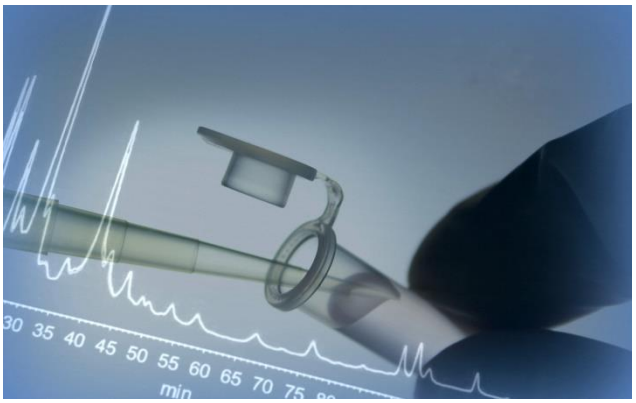
The evolution of further surface modification*

Development of a novel silyl-reagent which bonded with mulifunctional end-capping reagents

Final TMS treatment

★C18 phase can be used at pH range from 2 to 12 as well as hybrid C18s.

☆An excellent peak for acidic, basic and metal chelating compounds without effect of residual silanol groups



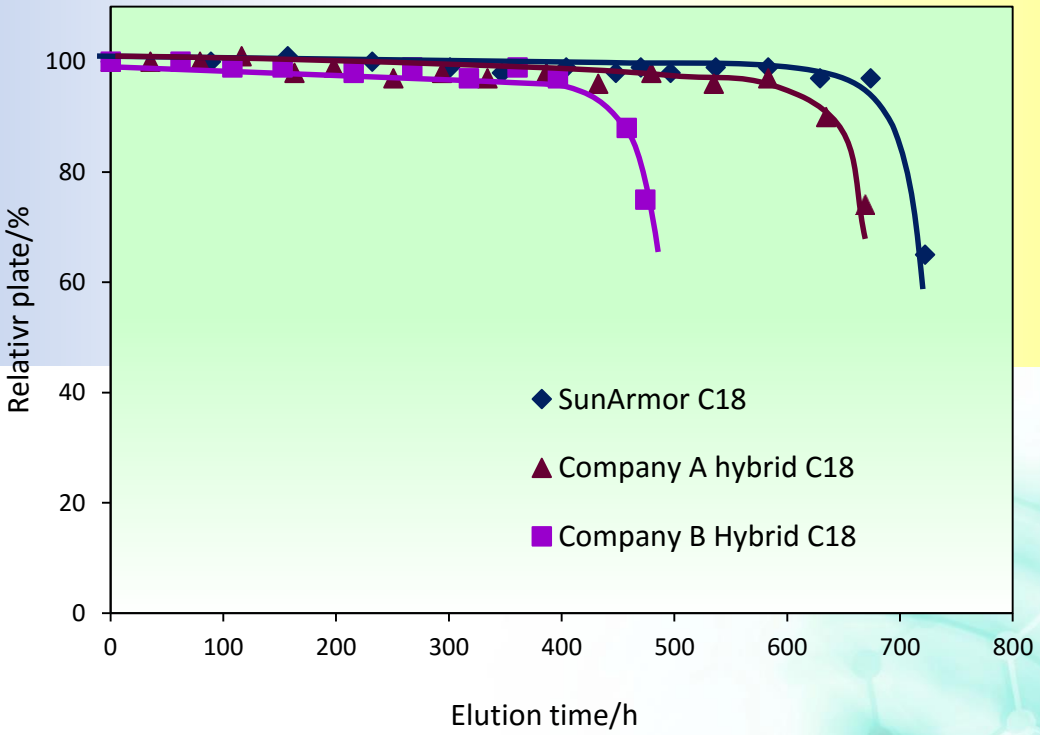
Characteristics of SunArnor

Stationary Phase	Particle size (µm)	Pore dismeter (nm)	Specific surface area (m^2/g)	Carbon loading (%)	Lingand	pH range for usage	USP Categor
SunArmor C18	3 and 5	12	340	17	C18	2 - 12	L1

Stability under basic pH condition

SunArmor C18

Almost same stability to compare with the hybrid C18s.



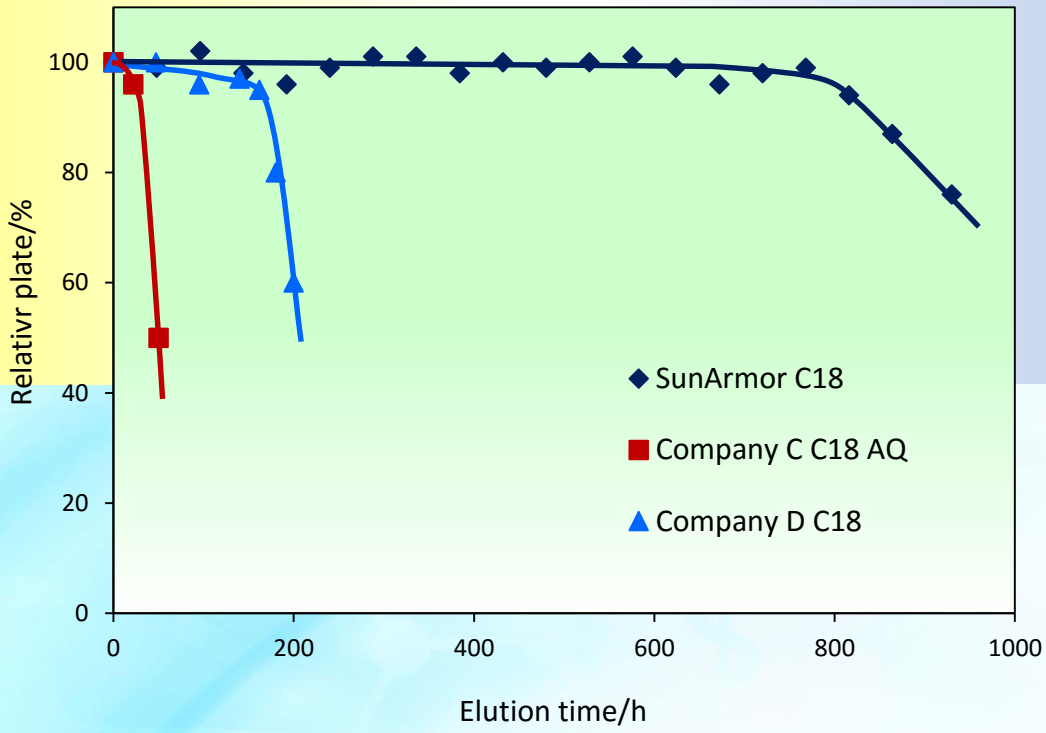
Durable test condition
Column size: 50 x 2.1 mm
Mobile phase:
CH3OH/10mM Ammonimm bicarbonate (pH10.5)=30/70
Flow rate: 0.8 mL/min
Temperature: 60 ^{o}C

Measurement condition
Column size: 50 x 2.1 mm
Mobile phase: CH3CN/H2O=60/40
Flow rate: 0.2 mL/min
Temperature: 40 ^{o}C
Sample: 1 = Butylbenzene

The result of the comparison data in this catalog is not the representative example of all application.

Stability under neutral pH condition at 80 ºC

SunArmor C18



Durable test condition
Column size: 50 x 2.1 mm
Mobile phase:
CH3OH/10mM Ammonimm acetate (pH6.8)=30/70
Flow rate: 0.2 mL/min
Temperature: 80 ºC

Measurement condition
Column size: 50 x 2.1 mm
Mobile phase: CH3CN/H2O=60/40
Flow rate: 0.2 mL/min
Temperature: 40 ºC
Sample: 1 = Butylbenzene

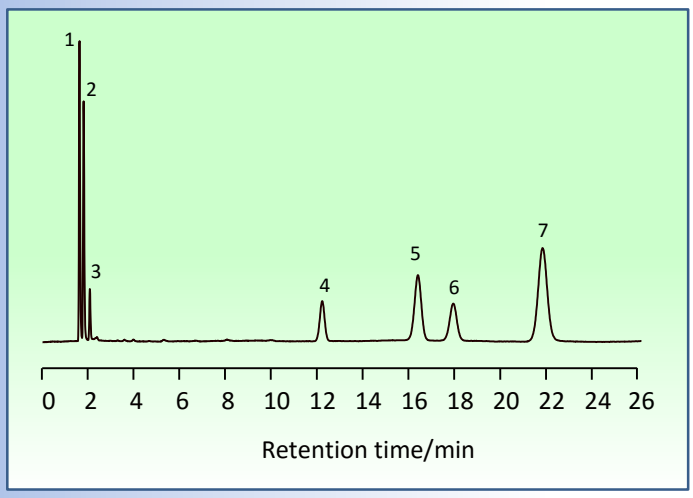
The result of the comparison data in this catalog is not the representative example of all application.

Parameter using standard sample

Evaluation of hydrogen bonding, hydrophobicity and steric selectivity

Reproducibility in retention

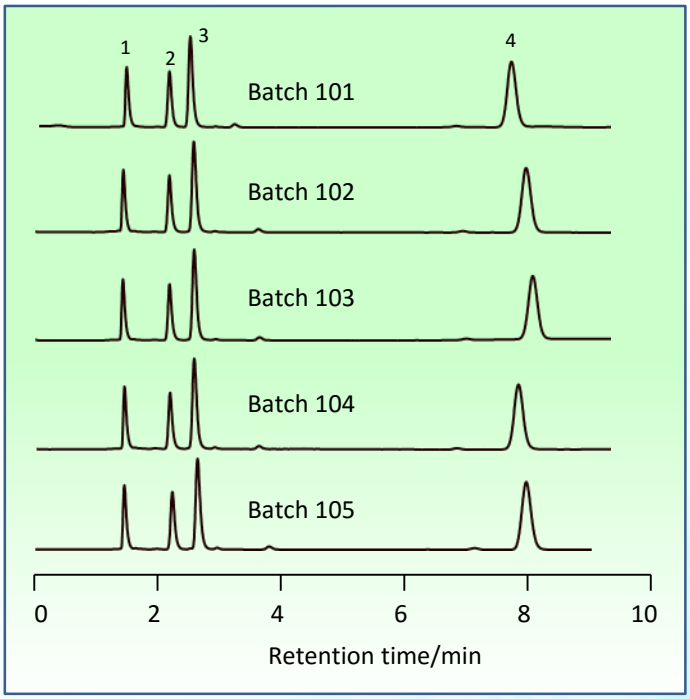
Separation of standard sample of SunArmor C18



Condition
Column: SunArmor C18 5 µm , 150 x 4.6 mm
Mobile phase: CH_3OH/H_2O=75/25
Flow rate: 1.0 mL/min
Temperature: 40 °C
Sample:
1 = Uracil
2 = Caffeine
3 = Phenol
4 = Butylbenzene
5 = o-Terphenyl
6 = Amylbenzene
7 = Triphenylene

	Hydrogen bonding (Caffeine/Phenol)	Hydrophobicity (Amylbenzene/Butylbenzene)	Steric selectivity (Triphenylene/o-Terphenyl)
SunArmor C18	0.40	1.54	1.35

Reproducibility in retention of SunArmor C18



Retention time of amitriptyline

Batch	Retention time
101	7.69 min
102	7.97 min
103	8.12 min
104	7.85 min
105	7.93 min
Average (Av)	7.91 min
Standard deviation (σ)	0.14 min

Condition (amitriptyline)
Column dimension: 150 x 4.6 mm
Mobile phase: Acetonitrile/20mM phosphate buffer pH7.0=(60:40)
Flow rate: 1.0 mL/min
Temp.: 40°C
Sample: 1=Uracil
2=Propranolol
3= Nortriptyline
4=Amitriptyline

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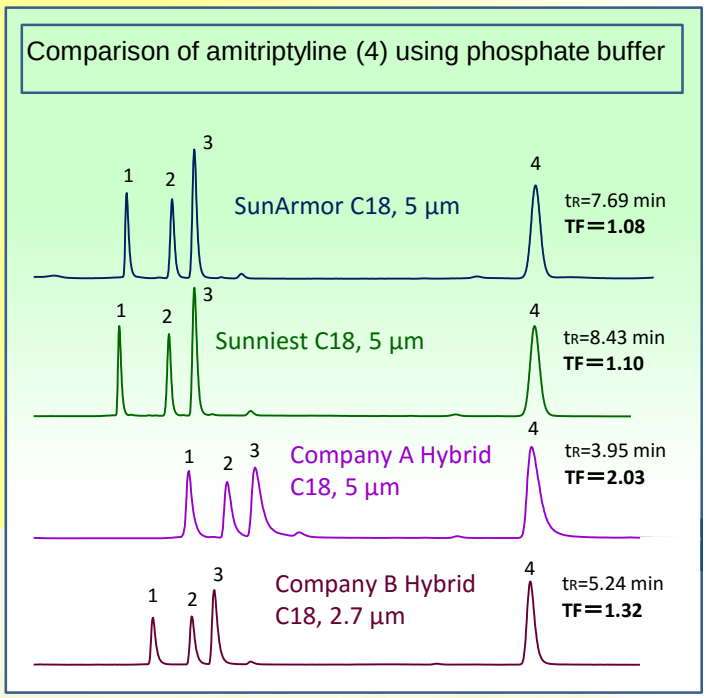
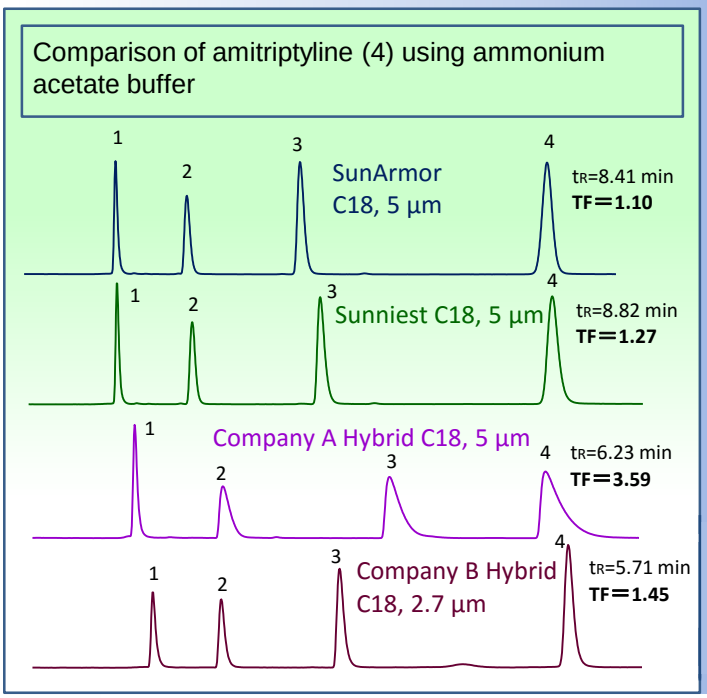
Peak Shape of basic compound



<tR: retention time, TF: tailing factor>



<tR: retention time, TF: tailing factor>

Condition (amitriptyline)

Column dimension: 150 x 4.6 mm

Mobile phase:

A) Acetonitrile/**20mM phosphate buffer pH7.0**=(60:40)

B) Acetonitrile/**10mM ammonium acetate pH6.8**=(40:60)

Flow rate: 1.0 mL/min

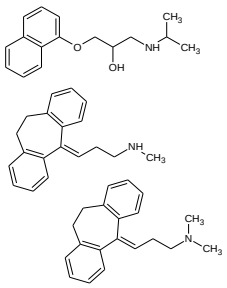
Temp.: 40°C

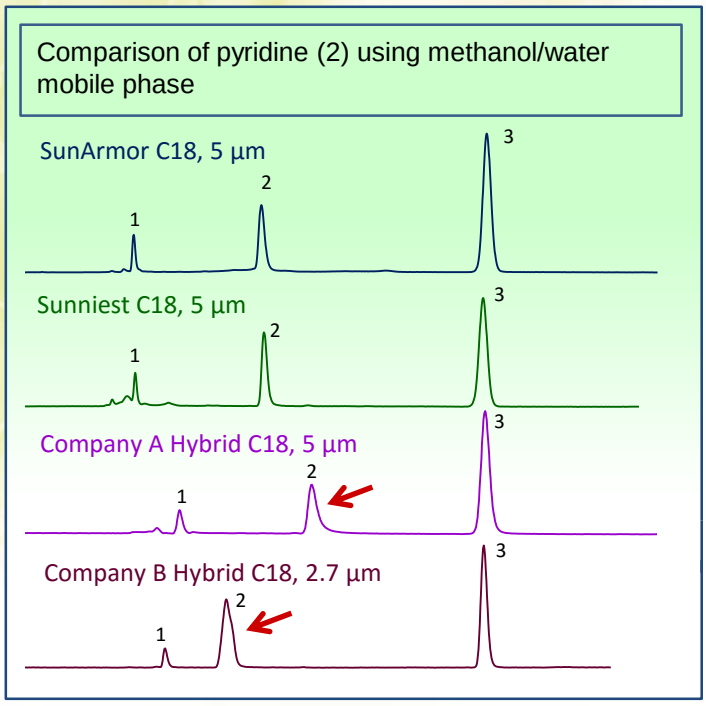
Sample: 1=Uracil

2=Propranolol

3= Nortriptyline

4=Amitriptyline





Condition (pyridine)

Column dimension: 150 x 4.6 mm

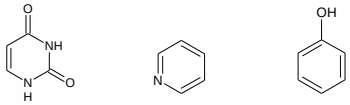
Mobile phase: CH_3OH/H_2O=30/70

Flow rate: 1.0 mL/min

Temperature: 40 °C

Detection: UV@250nm

Sample: 1 = Uracil, 2 = Pyridine, 3 = Phenol



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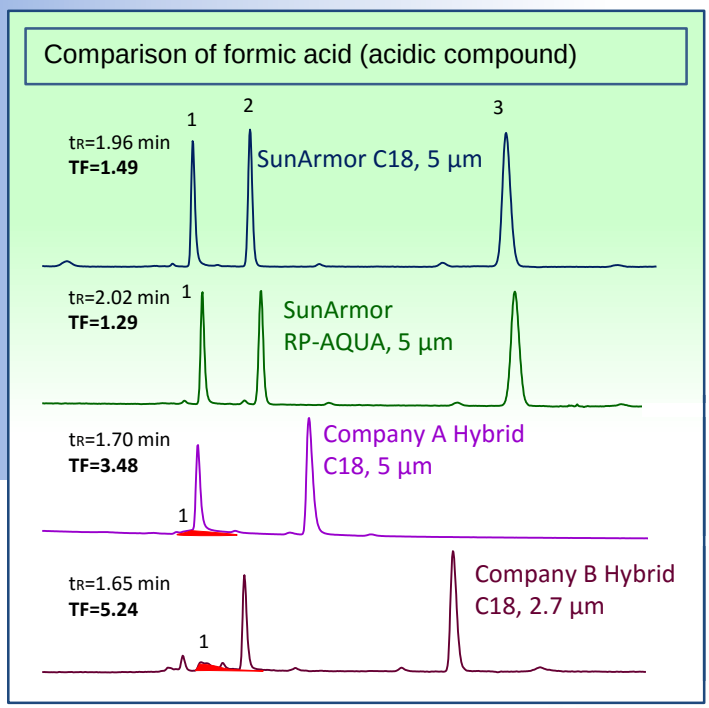
Peak shape of acidic and metal chelating compounds

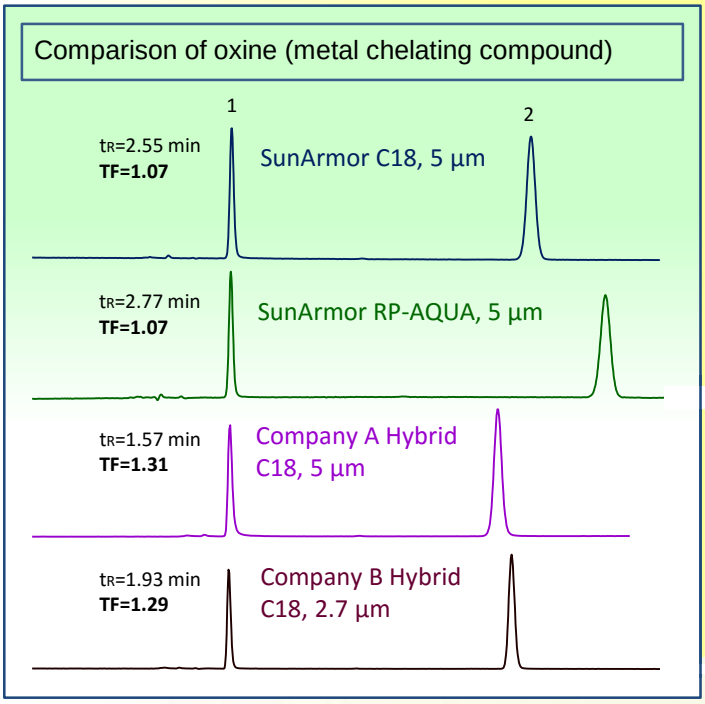


<tR: retention time, TF: tailing factor>

Condition (formic acid)

Column dimension: 150 x 4.6 mm
Mobile phase: CH_3CN/0.1% H_3PO_4=2/98
Flow rate: 1.0 mL/min
Temperature: 40 °C
Detection: UV@210nm
Sample: 1 = Formic acid
2 = Acetic acid
3 = Propionic Acid

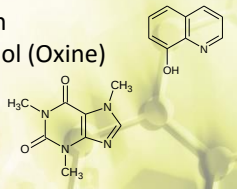
*Hybrid C18s showed a very poor peak shape for formic acid. It is doubted that some amines as a by-product remained on the surface of packing materials.



<tR: retention time, TF: tailing factor>

Condition (oxine)

Column dimension: 150 x 4.6 mm
Mobile phase: CH_3CN/20mM H_3PO_4=10/90
Flow rate: 1.0 mL/min
Temperature: 40 °C
Detection: UV@250nm
Sample: 1 = 8-Quinolinol (Oxine)
2 = Caffeine



The result of the comparison data in this catalog is not the representative example of all application.

SunArmor

＊Distributor network

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Ordering information of SunArmor

Packings	Inner diameter (mm)	2.0	3.0	4.6	10	20	USP category
	Length (mm)	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	
SunArmor C18, 3 µm	50	HB2241	HB2341	HB2441	------	------	L1
	75	HB2251	------	-----	------	------	
	100	HB2261	HB2361	HB2461	------	------	
	150	HB2271	HB2371	HB2471	------	------	
	250	------	HB2381	HB2481	------	------	
SunArmor C18, 5 µm	50	HB3241	HB3341	HB3441	------	------	L1
	100	HB3261	HB3361	HB3461	------	------	
	150	HB3271	HB3371	HB3471	------	------	
	250	HB3281	HB3381	HB3481	HB3781	HB3881	

Guard Certridge column of SunArmor

product	Particle size	Catalog No.
SunArmor C18, 5 µm Guard cartridge column (1-pak + Holder) 4 x 10mm	5 µm	HB3A1H
SunArmor C18, 5 µm Guard cartridge (4-pak) 4 x 10mm	5 µm	HB3A1C
SunArmor Guard cartridge holder	---	HOLA1C

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