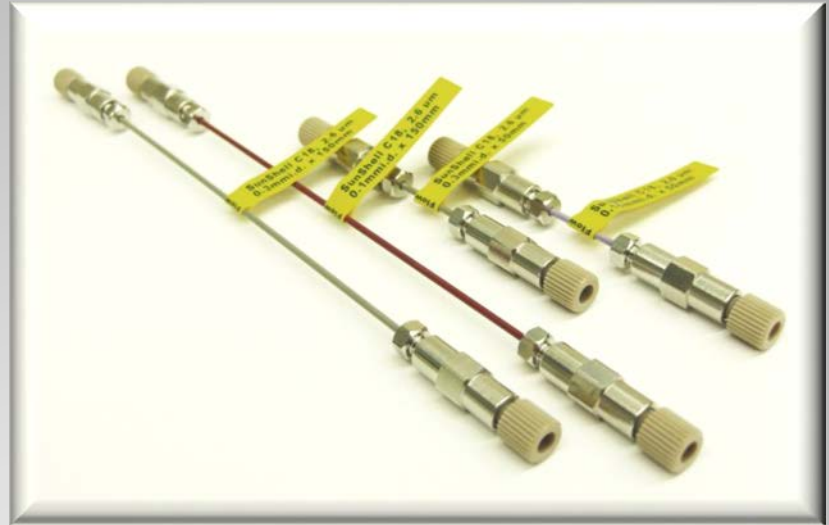
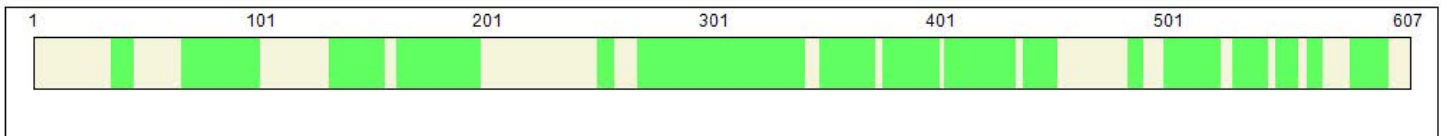


MICRO/NANO-COLUMN

Suitable for
LC/MS/MS



Micro-column: 0.3 mm i.d., 0.5 mm i.d. Nano-column: 0.075 mm i.d., 0.1 mm i.d., 0.15 mm i.d.
IDA measurement using SunShell C18, 2.6 µm 150 x 0.075 mm i.d. and Nano LC-MS



Sequence	Modification List	1	11	21	31	41	51	61	71	81	91
Modifications P02769	1	MKQVTFISLL	LLFSSAYSRG	VFRDRTHKSE	IAHRFKDLGE	EHFKGLVLIA	FSQYLQQCPF	DEHVKLVNEL	TEFARTCVAD	ESHAGCEKSL	HTLFGDELCK
Modifications P02769	101	VASLRETYGD	MADCEKQEP	ERNECFLSHK	DDSPDLPLK	LPDNTLCDEF	KADKKFWGK	YLYEIARRHP	YFYAPELLLY	ANKYGVFQE	CCQAEDKAC
Modifications P02769	201	LLPKIETMRE	KVLASSARQR	LRCASIQKFG	ERALKAWSVA	RLSQKFPKAE	FVEVTKLVTD	LTKVHKECCH	GDLLCADDR	ADLAKYICDN	QDTISSKLKE
Modifications P02769	301	CC	C			C				CC	C
Modifications P02769	401	KHLVDEPQNL	IKQNCDOFEK	LGEYGFQNAL	IVRYTRKVPQ	VSTPTLVEVS	RSLGKVGTRC	CTKPESERMP	CTEDYLSLIL	NRLCVLHEKI	PVSEKVIKCC
Modifications P02769	501		C			C				CC	C
Modifications P02769	601	STQIALA									

Serum albumin OS=Bos taurus GN=ALB PE=1 SV=4
 Annotate PTMs reported in Uniprot
 Show only PTMs
 Include PSMs that are Filtered Out
Coverage: 60.63%
Found Modifications:
 C Carbamidomethyl (C)

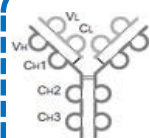
Sample: Tryptic digest of BSA, 30 µg on column
 Detection: QTRAP5500
 Detection mode: IDA measurement
 HPLC : Ultimate 3000 RSLC nano
 Trap column : Acclaim PepMap 100, 3 µm, 20 x 0.075 mm i.d.
 Analytical column: SunShell C18, 2.6 µm, 150 x 0.075 mm i.d.

Mobile phase:
 To trap column, 0.1% TFA (Sample load)
 To anal. Column, A) 0.1% Formic acid,
 B) 0.1% Formic acid/Acetonitrile=20/80
 Gradient in 25 min

Courtesy of a pharmaceutical company in Japan++

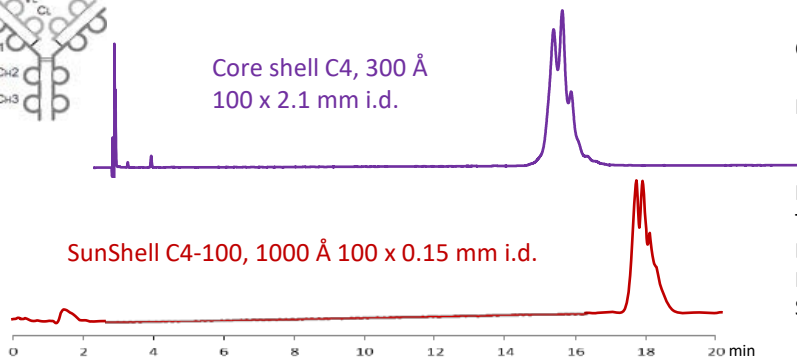
*After verification with the database, the sequence identification rate of BSA was over 60%, which was a higher identification rate than conventional nano-columns.

Separation of monoclonal antibody (IgG)



Core shell C4, 300 Å
100 x 2.1 mm i.d.

SunShell C4-100, 1000 Å 100 x 0.15 mm i.d.



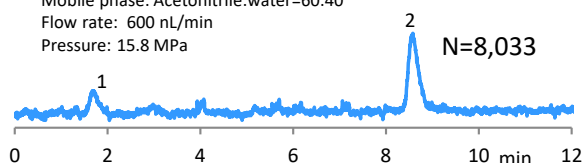
Column dimension: 100 x 2.1 mm i.d.
100 x 0.15 mm i.d. (nano-column)
Mobile phase: A) water/TFA (100/0.1)
B) acetonitrile/TFA (100/0.085)
30-45%B (0-30 min) (0-15min)
Flow rate: 0.4 mL/min, 0.004 mL/min (nano-column)
Temperature: 80 °C
Detection: UV at 215 nm
Injection: 5 µL, 0.1 µL (nano-column)
Sample: Purified antibody obtained by cell culture
(Purified with IgG using protein G affinity column)

Performance of micro/nano-columns

Sample: 1 = Uracil, 2 = Acenaphthene

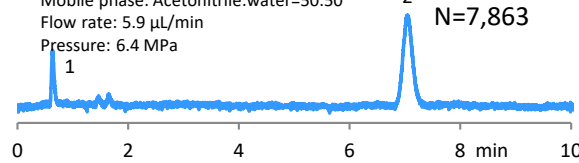
SunShell C18, 2.6 µm 150 x 0.1 mm

Mobile phase: Acetonitrile:water=60:40
Flow rate: 600 nL/min
Pressure: 15.8 MPa



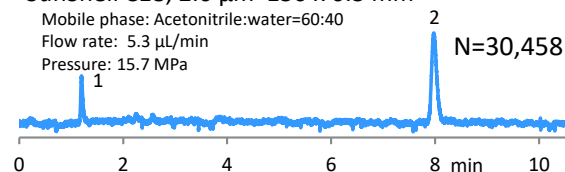
SunShell C18, 2.6 µm 50 x 0.3 mm

Mobile phase: Acetonitrile:water=50:50
Flow rate: 5.9 µL/min
Pressure: 6.4 MPa



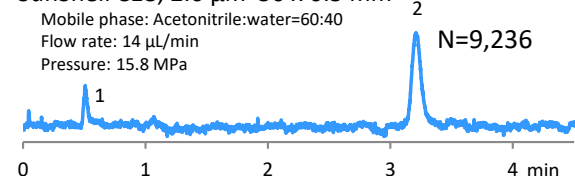
SunShell C18, 2.6 µm 150 x 0.3 mm

Mobile phase: Acetonitrile:water=60:40
Flow rate: 5.3 µL/min
Pressure: 15.7 MPa



SunShell C18, 2.6 µm 50 x 0.5 mm

Mobile phase: Acetonitrile:water=60:40
Flow rate: 14 µL/min
Pressure: 15.8 MPa



* The SunShell C18 with an inner diameter of 0.3 mm and a length of 150 mm demonstrates performance of 30,000 plates, which is almost the same as a semi-micro column with an inner diameter of 2.1 mm. Even short columns with a length of 50 mm are more than 7,000 plates.

Ordering information

	Inner diameter (mm)	0.075	0.1	0.15	0.3	0.5	USP category
	Length (mm)	Catalog number	Catalog number	Catalog number	Catalog number	Catalog number	
SunShell C18, 2 µm	50	CB1J4P	CB1H4P	CB1K4P	CB1G4P	CB1F48	L1
	150	CB1J7P	CB1H7P	CB1K7P	CB1G7P	CB1F78	
SunShell C18, 2.6 µm	50	CB6J4P	CB6H4P	CB6K4P	CB6G4P	CB6F48	
	150	CB6J7P	CB6H7P	CB6K7P	CB6G7P	CB6F78	
SunShell C18, 5 µm	50	-----	-----	-----	CB3G4P	CB3F48	
	150	-----	-----	-----	CB3G7P	CB3F78	
Sunniest C18, 3 µm	50	EB2J4P	EB2H4P	EB2K4P	EB2G4P	EB2J48	
	150	EB2J7P	EB2H7P	EB2K7P	EB2G7P	EB2J78	
Sunniest C18, 5 µm	50	EB3J4P	EB3H4P	EB3K4P	EB3G4P	EB3J48	
	150	EB3J7P	EB3H7P	EB3K7P	EB3G7P	EB3J78	
SunShell Phenyl, 2.6 µm	50	CP6J4P	CP6H4P	CP6K4P	CP6G4P	CP6F48	L11
	150	CP6J7P	CP6H7P	CP6K7P	CP6G7P	CP6F78	
SunShell C8-30HT, 3.4 µm	50	C56J4P	C56H4P	C56K4P	C56G4P	C56F48	L7
	150	C56J7P	C56H7P	C56K7P	C56G7P	C56F78	
SunShell C4-100, 2.6 µm	50	C66J4P	C66H4P	C66K4P	C66G4P	C66F48	L26
	150	C66J7P	C66H7P	C66K7P	C66G7P	C66F78	

- The end-fitting of a micro and nano-column is Parker type.
- The last letter of catalog number means a material of column body. P means PEEKSIL. Both 8 and L mean Glass lined tubing.
- Regarding the upper limit of operating pressure, both P and 8 are 80MPa and L is 45MPa.



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