

Column for HPLC/UHPLC



Develosil[®] FlexFire mAb-RP

Develosil USA



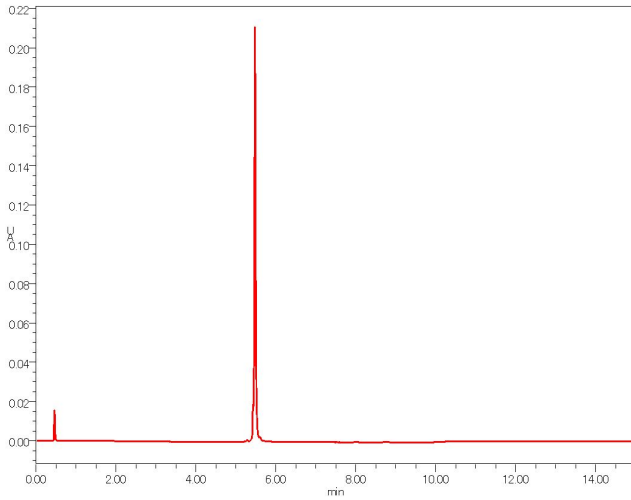
Develosil® FlexFire mAb-RP

From intact protein to digested peptide analysis!!

FlexFire mAb-RP was developed using 1000 Å silica gel, allowing this single column to be used for the analysis of a wide range of molecular sizes, from intact proteins and monoclonal antibodies to digested peptides. The mAb-RP column can provide high sensitivity analysis across this range by matching the pore diameter of the silica gel to the molecular weights of the analytes.

FlexFire mAb-RP Specifications:

	FlexFire mAb-RP
Particle size	2.6 µm, 5 µm
Chemistry	Butyl
Surface area	24 m ² /g
Pore volume	1.4 mL/g
Pore diameter	100 nm
Carbon	0.60%
End-cap	Yes
pH	pH1-10
Temperature	~80 °C
Pressure range	2.6 µm: 600 bar (=60 Mpa,=8,702 psi)
	5 µm: 300 bar (=30 Mpa,=4,351 psi)



Conditions;

Column: Develosil FlexFire mAb_RP, 2.6 μ m (2.0x50 mm)

Mobile phase: A) Water + 0.1 %TFA B) Acetonitrile + 0.1 %TFA

Gradient:

min	mL/min	%A	%B	Curve
0.00	0.3	80	20	
8.40	0.3	40	60	6
8.42	0.3	80	20	6

Temperature: 70 °C

Detection: UV280 nm

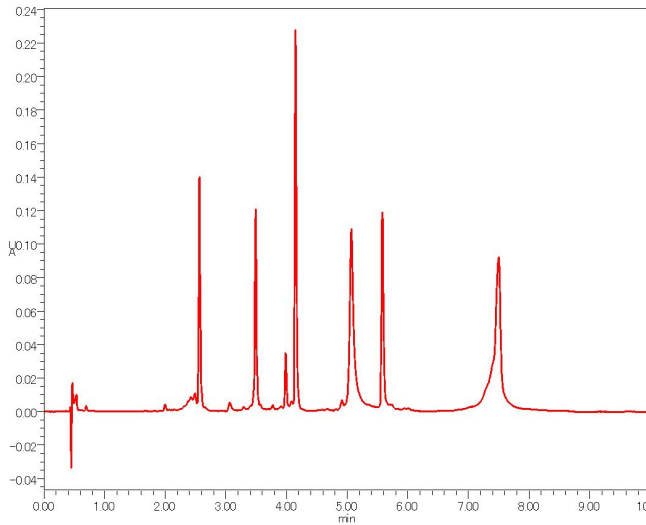
Sample: NISTmAb (0.83 mg/mL)

Injection volume: 0.5 μ L

System: Waters ACQUITY UPLC H-Class PLUS

Mixer: 100 μ L

Fig 1. Analysis of Nist monoclonal antibody (NISTmAb) RM 8671



Conditions;

Column: Develosil FlexFire mAb_RP, 2.6 μ m (2.0x50 mm)

Mobile phase: A) Water + 0.1 %TFA B) Acetonitrile + 0.1 %TFA

Gradient:

min	mL/min	%A	%B	Curve
0.00	0.3	80	20	
8.40	0.3	40	60	6
8.42	0.3	80	20	6

Temperature: 70 °C

Detection: UV280 nm

Sample: 1.Ribonucleases A 2.Ctochrome C 3.Lysozeme

4.BSA 5.Myoglobin 6.Obalbumin

Injection volume: 0.2 μ L

System: Waters ACQUITY UPLC H-Class PLUS

Mixer: 100 μ L

Fig 2. Analysis of mixture of 6 proteins

For clearer analysis!!

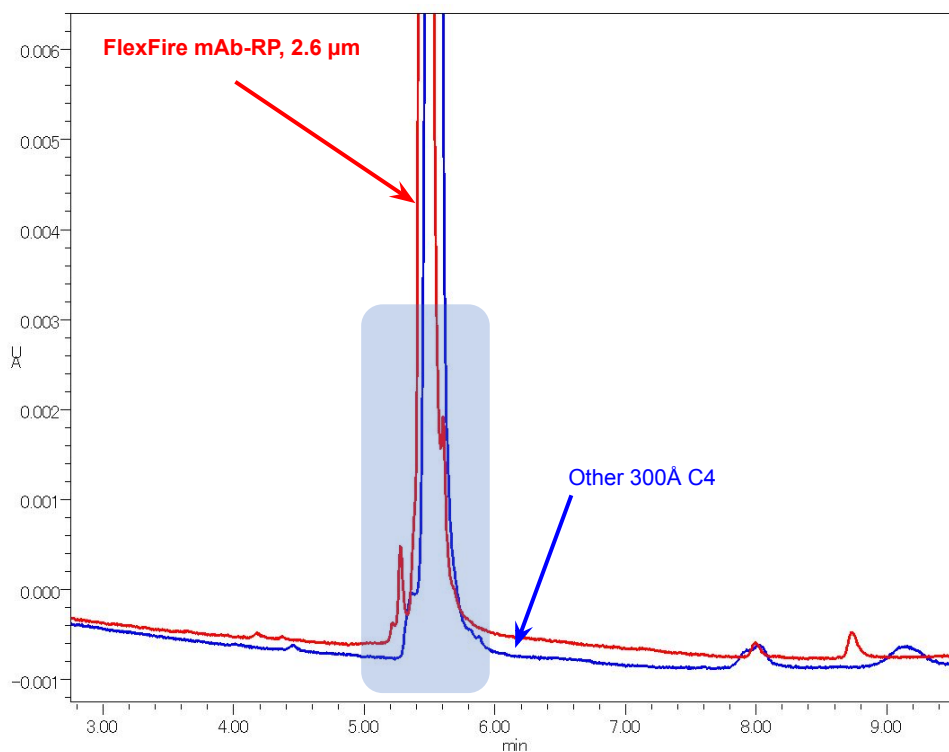


Fig 3 IgG monoclonal antibodies have a high molecular weight, roughly 150 kDa. Their large size limits the resolution of analyses using columns with 300 Å pores. IgG antibodies can fully partition into the 1000 Å pores of FlexFire mAb-RP, removing this limitation.

Conditions;

Column: FlexFire mAb_RP, 2.6 μm (2.0x50 mm)

Other 300 Å C4, 2.5 μm (2.1x50 mm)

Mobile phase: A) Water + 0.1 %TFA B) Acetonitrile + 0.1 %TFA

Gradient:	min	mL/min	%A	%B	Curve
	0.00	0.3	80	20	
	8.40	0.3	40	60	6
	8.42	0.3	80	20	6

Temperature: 70 °C

Detection: UV280 nm

Sample: NISTmAb (0.83 mg/mL)

Injection volume: 0.5 μL

System: Waters ACQUITY UPLC H-Class PLUS

Mixer: 100 μL

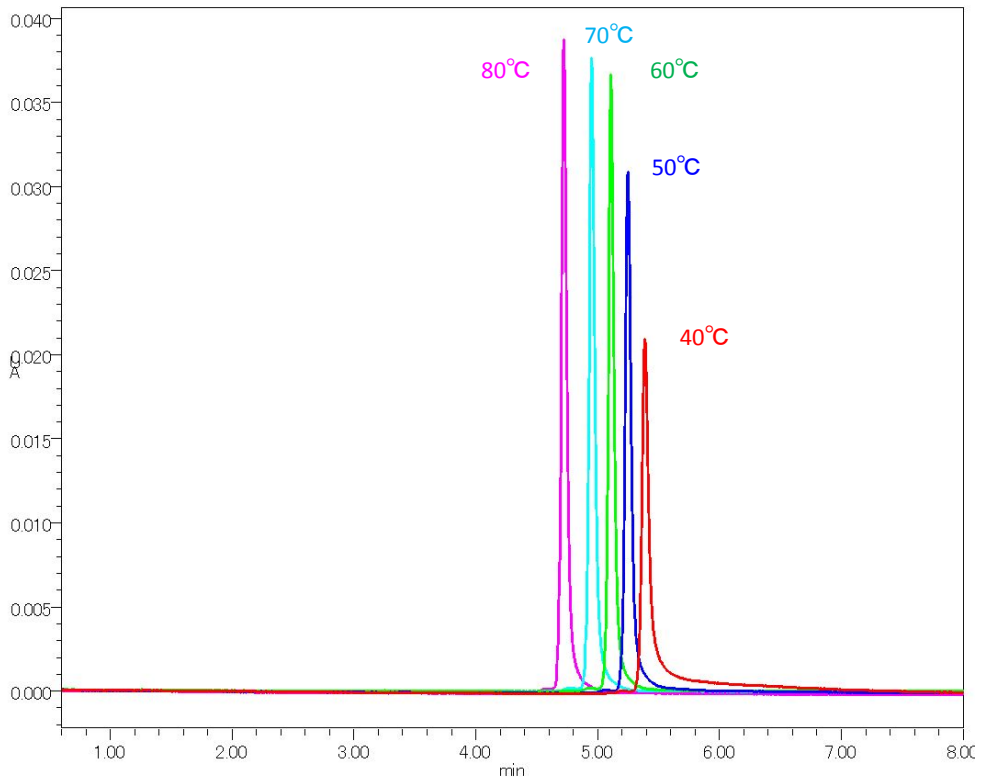


Fig 4 FlexFire mAb-RP does not require high temperatures to achieve high resolution and short run times. This can be crucial for preventing thermal denaturation of proteins during analysis.

Conditions;

Column: FlexFire mAb_RP, 2.6 μm (2.0x50 mm)

Mobile phase: A) Water + 0.1 %TFA B) Acetonitrile + 0.1 %TFA

Gradient:	min	mL/min	%A	%B	Curve
	0.00	0.3	80	20	
	8.40	0.3	40	60	6
	8.42	0.3	80	20	6

Temperature: 40-80 $^{\circ}\text{C}$

Detection: UV280 nm

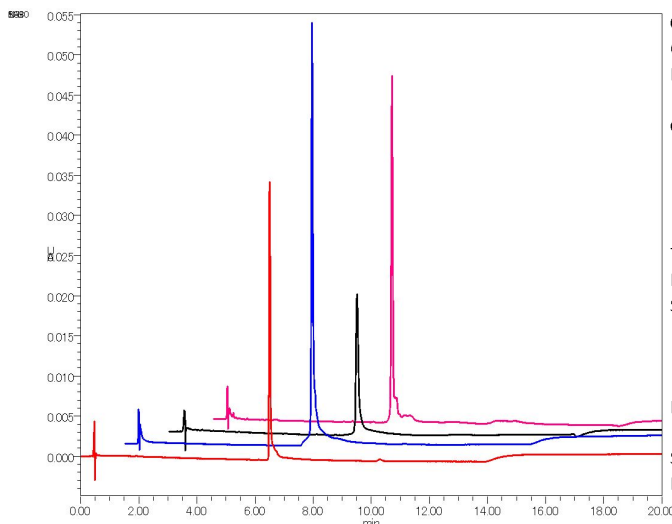
Sample: NISTmAb

Injection volume: 0.5 μL

System: Waters ACQUITY UPLC H-Class PLUS

Mixer: 100 μL

Anti-SARS-CoV-2 (COVID-19) Antibody



Conditions;

Column: FlexFire mAb_RP, 5 μ m (2.0x50 mm)
 Mobile phase: A) Water + 0.1 %TFA B) Acetonitrile + 0.1 %TFA

Gradient:

min	mL/min	%A	%B	Curve
0.00	0.3	80	20	
8.40	0.3	40	60	6
8.42	0.3	80	20	6

Temperature: 70 °C

Detection: UV280 nm

Sample: [1A9] SARS-CoV/SARS-CoV-2 (COVID-19) spike antibody
 [6H3] SARS-CoV/SARS-CoV-2 (COVID-19) nucleocapsid antibody
 [5A10] SARS-CoV/SARS-CoV-2 (COVID-19) NSP8 antibody
 [3C9] SARS-CoV/SARS-CoV-2 (COVID-19) ORF7a antibody

Injection volume: 10 μ L

System: Waters ACQUITY UPLC H-Class PLUS

Mixer: 100 μ L

Fig 5 FlexFire mAb-RP has a wide variety of selectivity under every mobile phase conditions; composition, pH, temperature etc. This selectivity makes method development in characteristic analysis easier. FlexFire UHPLC columns with 2.6 μ m particle diameter allow for high throughput during both method development and sample analysis.

Product List

Product Name	Particle Diameter	Column Size (Inner Diameter x Length)	Product Code (Stainless)	Product Code (Metal Free)
FlexFire mAb-RP	2.6 μ m	2.0 x 35mm	320-L20035W	320-L20035MFW
		2.0 x 50mm	320-L20050W	320-L20050MFW
		2.0 x 75mm	320-L20075W	320-L20075MFW
		2.0 x 100mm	320-L20100W	320-L20100MFW
		2.0 x 150mm	320-L20150W	320-L20150MFW
	5 μ m	2.0 x 250mm	320-L20250W	320-L20250MFW
		2.0 x 35mm	320-520035W	320-520035MFW
		2.0 x 50mm	320-520050W	320-520050MFW
		2.0 x 75mm	320-520075W	320-520075MFW
		2.0 x 100mm	320-520100W	320-520100MFW
		2.0 x 150mm	320-520150W	320-520150MFW
		2.0 x 250mm	320-520250W	320-520250MFW

■ Contact us

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- The specification of products may change without notice as products are improved. Thank you for your understanding in advance.