

## UHPLC Analysis of Peptides with UHPLC

2018 10                      1.6 $\mu$ m                      Develosil UHPLC  
UHPLC

Develosil UHPLC  
LC/MS

*Nomura Chemistry and Develosil USA launched the Develosil UHPLC series adopting 1.6  $\mu$ m particles in October 2018. The newly adopted silica gel base material greatly improves the results so far and aims at ultra high speed separation by using UHPLC, so there are various merits such as shortening analysis time and saving solvents.*

*In this report, we tried analyzing peptides without using ion pair reagents. The Develosil UHPLC series gives sufficient retention and moderate separation while using ammonium formate for the mobile phase, and it can be expected to produce useful results in LC / MS.*

## -Previous peptides analysis conditions-

Column: Develosil HSR AQ C18, 5 $\mu$ m (4.6x150mm)

Develosil HSR AQ C18, 2 $\mu$ m (2.0x50mm)

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

Gradient: **5 $\mu$ m**

min	mL/min	% B	Curve
0.00	1.0	0	5
10.0	1.0	25	5
20.0	1.0	25	5
20.1	1.0	0	5

**2 $\mu$ m**

min	mL/min	% B	Curve
0.00	0.474	0	5
1.47	0.474	25	5
2.93	0.474	25	5
2.95	0.474	0	5

Temperature: 50

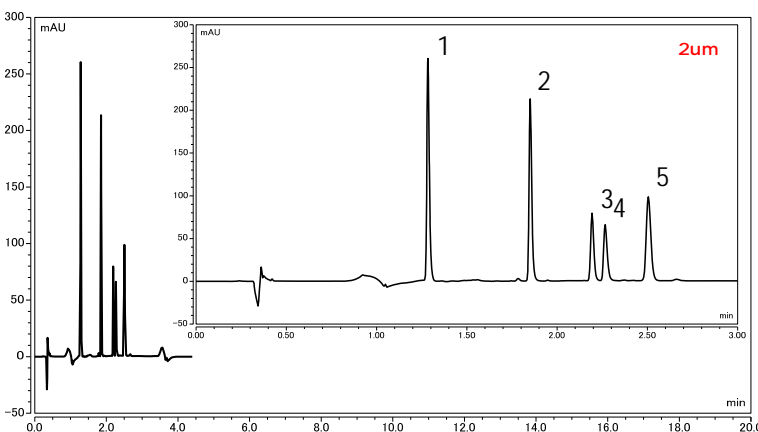
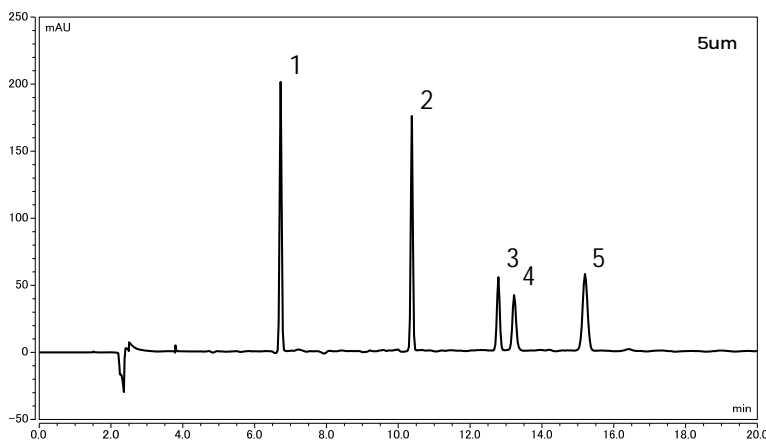
Detection: UV230nm

Sample: 1. Gly-Tyr 2. Val-Tyr-Val 3. Methionine-Enkephalin 4. Angiotensin II 5. Leucine-Enkephalin

Injection volume: 0.16 $\mu$ L

System: Thermo Fisher SCIENTIFIC Vanquish\_H

Mixer volume: 10 $\mu$ L



Thermo Fisher SCIENTIFIC

5 $\mu$ m 2 $\mu$ m

20

UHPLC

3

Develosil UHPLC

*This data was transferred from 5 $\mu$ m to 2 $\mu$ m using software of Thermo Fisher SCIENTIFIC. By transferring to the UHPLC method which was organized in 20 minutes, we succeeded in greatly shortening the analysis time to the method to just 3 minutes.*

*However, when the peptide held by the ion-pair reagent is changed to formic acid or ammonium formate mobile phase, significant retention decreases, but the Develosil UHPLC series achieves good retention and separation even under such conditions can do it.*

## Develosil UHPLC

## - Methods built for Develosil UHPLC series -

Column: Develosil UHPLC C30, 1.6 $\mu$ m (2.0x50mm)

Develosil UHPLC C18, 1.6 $\mu$ m (2.0x50mm)

Develosil UHPLC C8, 1.6 $\mu$ m (2.0x50mm)

Develosil UHPLC C1, 1.6 $\mu$ m (2.0x50mm)

Mobile phase: A) 10mM HCOONH<sub>4</sub>, pH3.0 B) Acetonitrile/10mM HCOONH<sub>4</sub>, pH3.0= 90/10

Gradient:

min	mL/min	%B	Curve
0.00	0.5	15	5
1.47	0.5	35	5
2.93	0.5	35	5
2.95	0.5	15	5

Temperature: 40

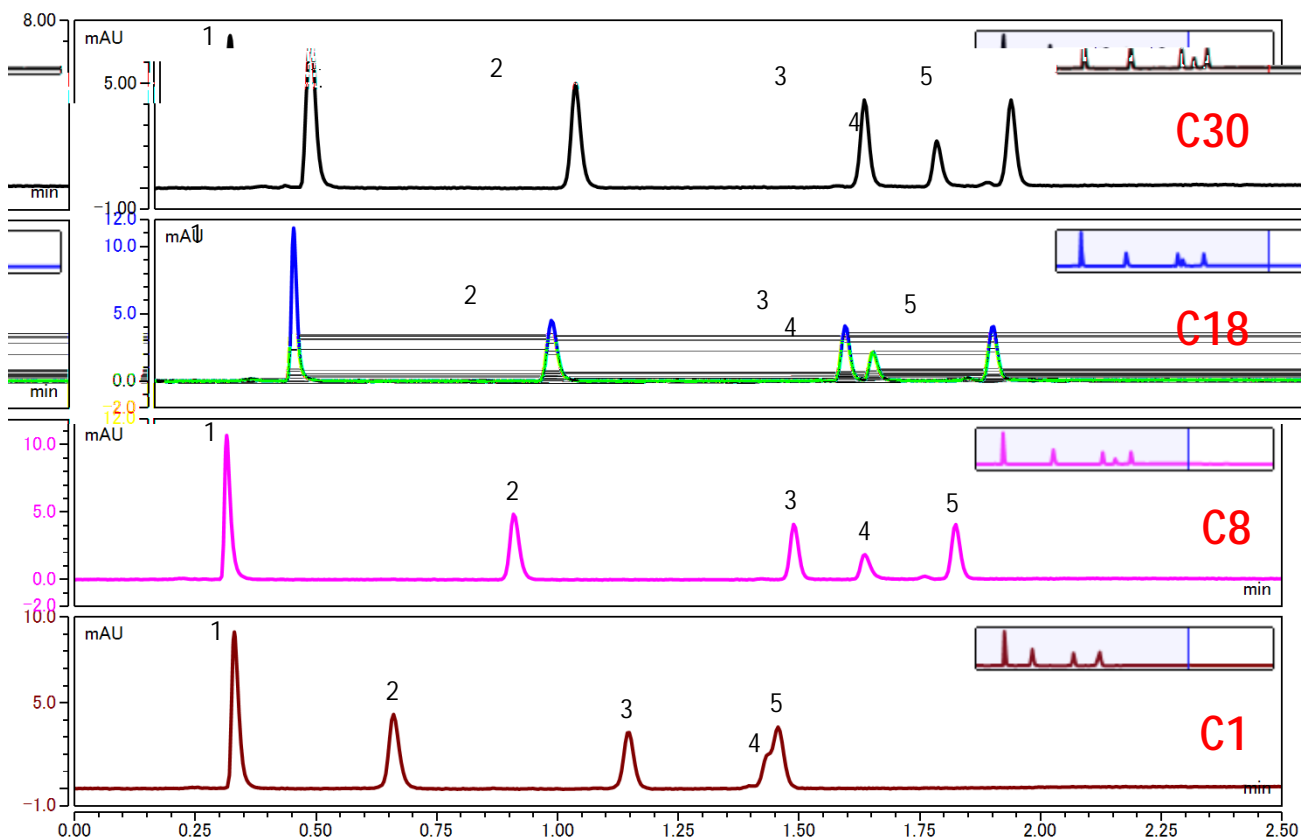
Detection: UV260nm

Sample: 1. Gly-Tyr 2. Val-Tyr-Val 3. Methionine-Enkephalin 4. Angiotensin II 5. Leucine-Enkephalin

Injection volume: 0.16 $\mu$ L

System: Thermo Fisher SCIENTIFIC Vanquish\_H

Mixer volume: 10 $\mu$ L



C1 5  
 0.1% TFA  
 UHPLC LC/MS

Develosil UHPLC UHPLC

*The method constructed without the ion pair reagent was able to completely separate the five peptides in the reverse phase column excluding C1. While increasing the composition of the organic solvent, analysis time is kept unchanged from that when using 0.1% TFA. By using ammonium formate mobile phase, you can introduce the method assembled by UHPLC directly to LC / MS, so we will not add extra consideration.*

*In addition, since volatile buffer is used, it greatly contributes to high efficiency of column washing, and salt precipitation can be suppressed to the utmost, thereby avoiding precipitation in the system and clogging of the column can do.*

*The Develosil UHPLC series will change the usual UHPLC analysis*

## ■オーダーインフォメーション/Order Information

### Develosil UHPLC 1.6µm Series

Size	C30	C18	C8	C1	HILIC
2.0x35mm	201-I20035	202-I20035	203-I20035	204-I20035	205-I20035
2.0x50mm	201-I20050W	202-I20050W	203-I20050W	204-I20050W	205-I20050W
2.0x75mm	201-I20075W	202-I20075W	203-I20075W	204-I20075W	205-I20075W
2.0x100mm	201-I20100W	202-I20100W	203-I20100W	204-I20100W	205-I20100W
2.0x150mm	201-I20150W	202-I20150W	203-I20150W	204-I20150W	205-I20150W

### Develosil UHPLC 1.6µm Metal-free Series

Size	C30	C18	C8	C1	HILIC
2.0x35mm	201-I20035MF	202-I20035MF	203-I20035MF	204-I20035MF	205-I20035MF
2.0x50mm	201-I20050MFW	202-I20050MFW	203-I20050MFW	204-I20050MFW	205-I20050MFW
2.0x75mm	201-I20075MFW	202-I20075MFW	203-I20075MFW	204-I20075MFW	205-I20075MFW
2.0x100mm	201-I20100MFW	202-I20100MFW	203-I20100MFW	204-I20100MFW	205-I20100MFW
2.0x150mm	201-I20150MFW	202-I20150MFW	203-I20150MFW	204-I20150MFW	205-I20150MFW

## ■お問い合わせ/Contact us



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