



# Peptide Mapping

## Sample to knowledge easier and faster than before

Peptide maps require 100% sequence coverage to prove the molecular structure of the biotherapeutic



## Digestion

### Easy

Digestion with the SMART Digest Kit

# 3 Steps

In-solution digestion

# 15+ Steps

### SMART Digestion



### Faster

Using the Thermo Scientific™ SMART Digest™ kit thyroglobulin is digested in **3.5 hours** versus **20 hours** with in-solution digestion

# 6x Faster

#### Typical Digestion Times

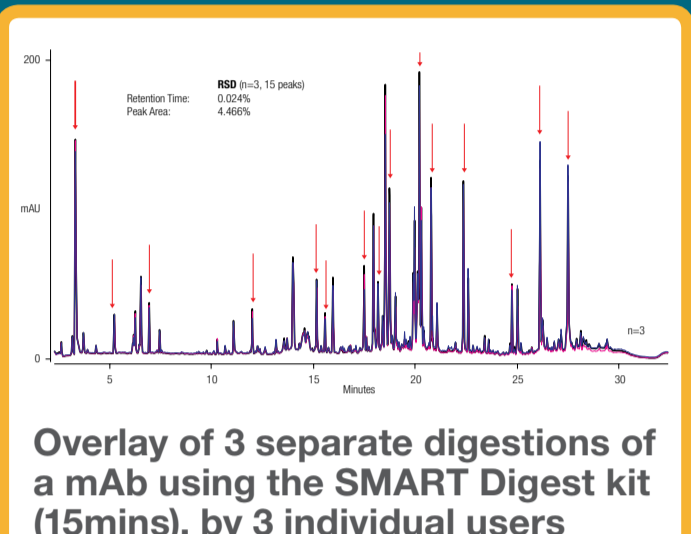
Protein	Digest Time (min)
Insulin	4
BSA	< 5
Carbonic anhydrase	< 5
Lysozyme	< 5
Apo-B	30
IgG	45
IgG in 50 µL plasma*	75
Ribonuclease A	150
Thyroglobulin	240
C-reactive protein	240

200 µL protein solution (100 µg/mL) at 70 °C  
\*IgG in plasma (17.5 mg/mL total protein) at 70 °C

### Reproducibility

The SMART Digest kit is highly reproducible user-to-user. Peak area RSD of...

# < 5%



Overlay of 3 separate digestions of a mAb using the SMART Digest kit (15mins), by 3 individual users



## Automation

# Easy Automate 96 Samples

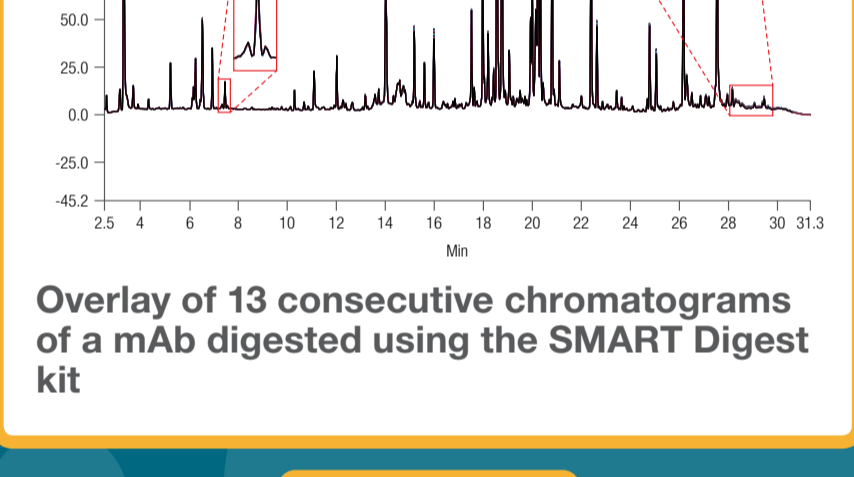


Digestion of samples can be easily automated with the Thermo Scientific™ KingFisher™ purification systems, allowing for fast, high throughput sample processing. KingFisher systems help you to reduce hands on time and bring reproducibility to your workflow.



## Separation

### Highly reproducible



Overlay of 13 consecutive chromatograms of a mAb digested using the SMART Digest kit

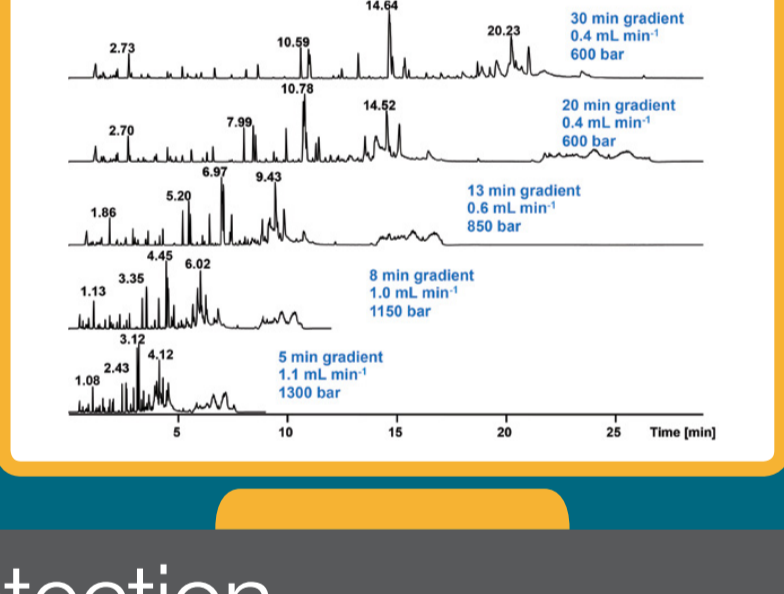
Retention time repeatability with the Thermo Scientific™ Vanquish™ Horizon UHPLC system

RT RSD (%) Less than

# 0.082

### Faster separation

Achieve Faster run times retain 100% sequence coverage



## Mass Detection

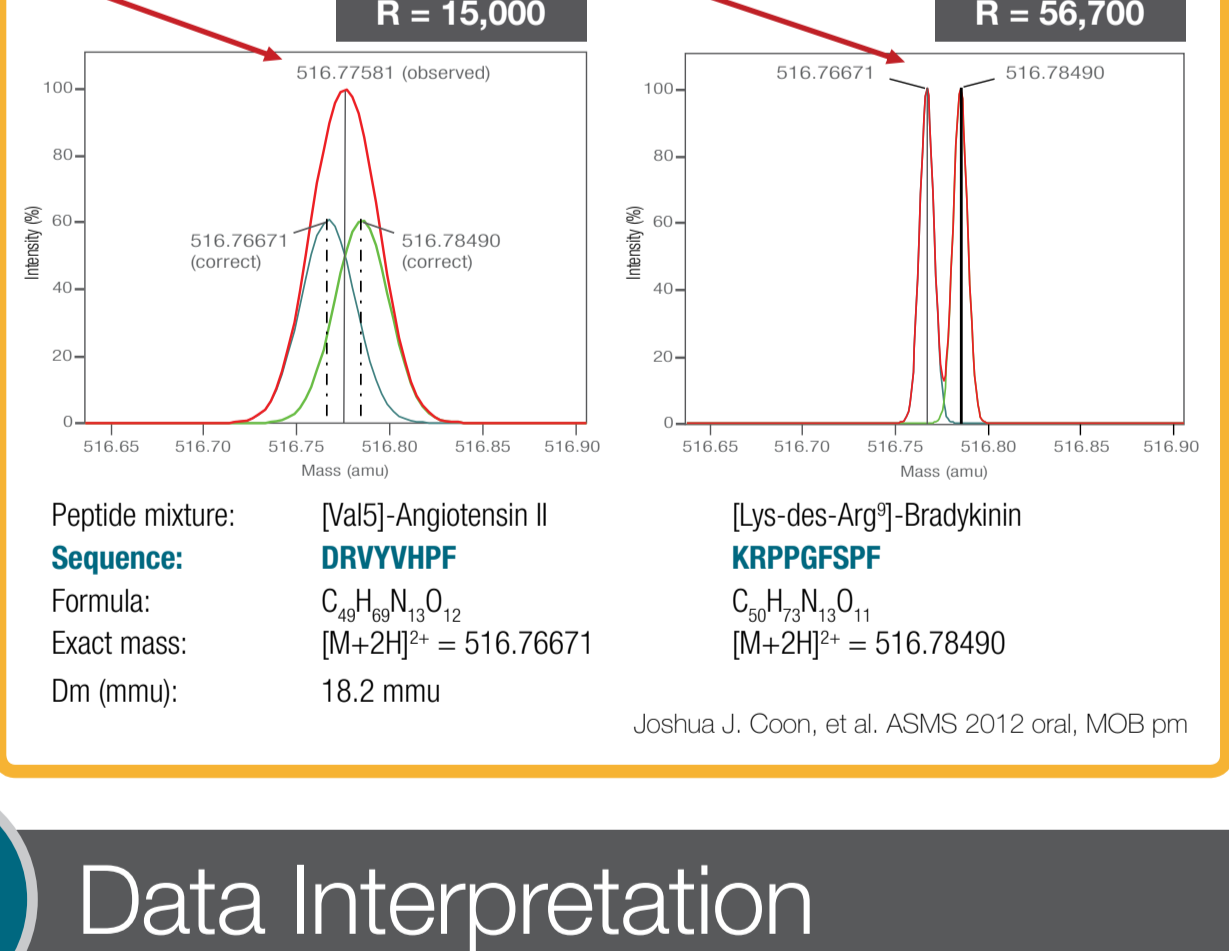
### High mass accuracy

# Confidence in Peptide Mapping

HRAM MS +/- 3 ppm



### Confidence in results



## Data Interpretation

### Easy data interpretation

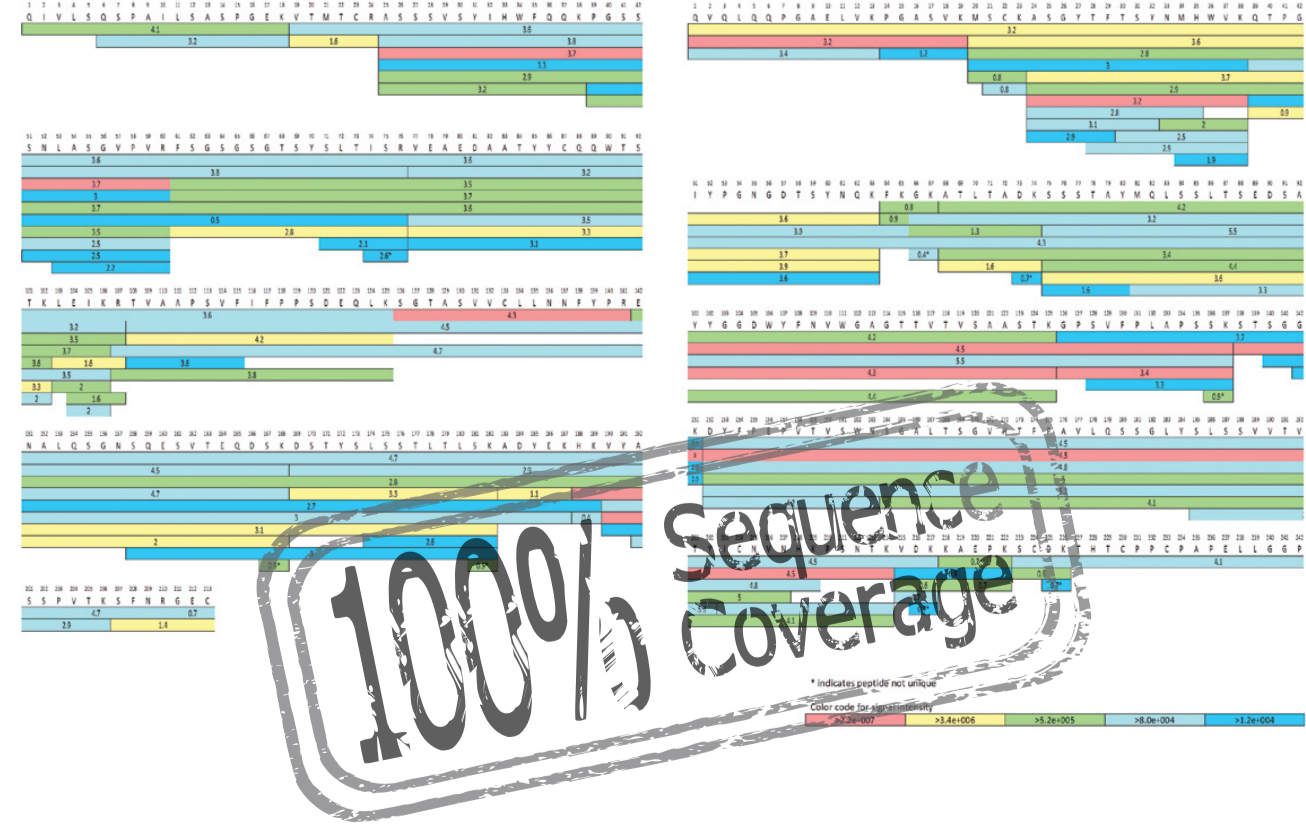


# Bf

Thermo Scientific™ BioPharma Finder™ software allows easy interrogation of peptide maps enabling full characterisation and confidence in results

#### Rituximab light chain

#### Rituximab heavy chain



For more information: [thermofisher.com/SMARTdigest](http://thermofisher.com/SMARTdigest)  
For more information on peptide mapping: [thermofisher.com/peptidemaps](http://thermofisher.com/peptidemaps)  
For technical information: [thermofisher.com/chromexpert](http://thermofisher.com/chromexpert)