

# Agilent AdvanceBio Peptide Mapping Column

## Data Sheet

### General Description

The Agilent AdvanceBio Peptide Mapping column is a 2.7  $\mu\text{m}$  ultra-high purity (>99.995%  $\text{SiO}_2$ ) superficially porous silica support densely bonded with C18 designed to provide the high-level of selectivity needed for peptide separations. This type of particle provides high efficiency at lower pressures when compared to small, totally porous particles and is ideal for fast or high resolution separations of peptides. The AdvanceBio Peptide Mapping columns are designed for high resolution separations of peptides and are tested with a mixture of 8 peptides with ranging physical characteristics to verify performance (see Figure 1).

### Safety Considerations

All points of connection in liquid chromatographic systems are potential sources of leaks. Users of LCs and UHPLCs should be aware of the toxicity or flammability of their mobile phases. Because of the small particle size, dry packings are respirable. Columns should only be opened in a well-ventilated area.

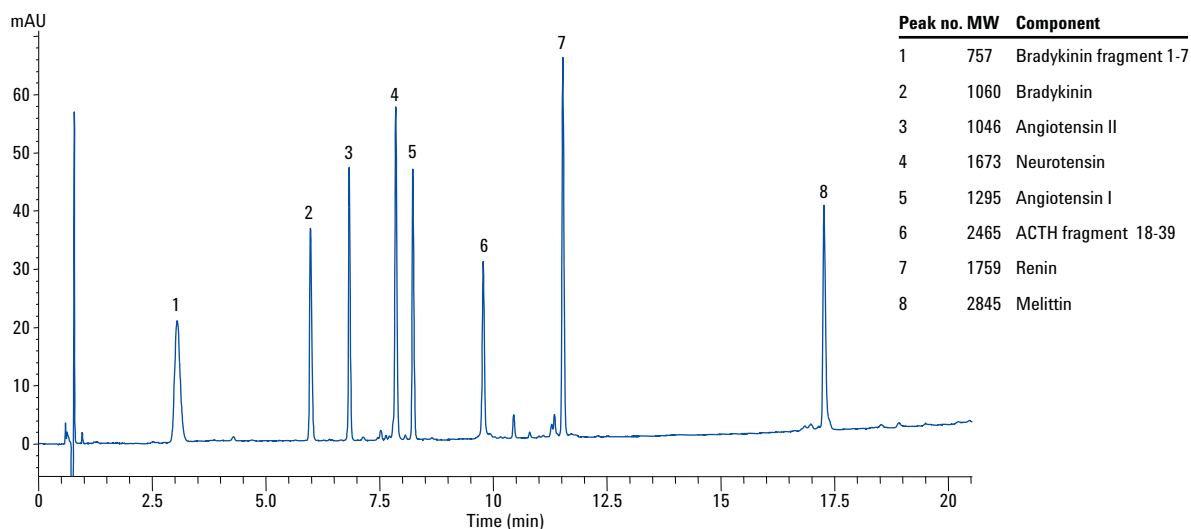


Figure 1. Chromatogram for 2.1  $\times$  150 mm AdvanceBio Peptide Column.  
Chromatographic Conditions: flow: 0.50 mL/min, inj: 5  $\mu\text{L}$  (0.5  $\mu\text{g}$  – 1.0  $\mu\text{g}/\mu\text{L}$  per peptide), temp: 55  $^\circ\text{C}$ , det: 220 nm, gradient: A = water (0.1% TFA), B = ACN (0.08% TFA), 0-25 minutes, 15-65% B; 25-26 minutes, 65-95% B.

## Operational Guidelines

- The direction of flow is marked on the column. The column should only be operated in this direction. Disassembling or over tightening the column will degrade column performance.
- AdvanceBio Peptide Mapping columns are compatible with water and all common organic solvents.
- The use of a AdvanceBio Peptide Mapping guard column is recommended to protect the Peptide Mapping column and extend its useful lifetime.
- Avoid use of this column below pH 2 or above pH 9.
- The maximum operating pressure for columns is 600 bar (8,700 psi). Maximum operating temperature is 60 °C

## Mobile Phase Selection

Most peptide separations are performed using a gradient method with a mobile phase of acetonitrile and water with an ion pairing additive such as formic acid (FA) or trifluoroacetic acid (TFA). Gradient-elution techniques for peptides on AdvanceBio Peptide Mapping columns often use 5-10% acetonitrile as the initial solvent and 80% acetonitrile as the final solvent. Column temperatures can also be elevated up to 60 °C. Additional information on peptide separations and conditions may be found in chapter Eleven, pgs. 497-508, Introduction to Modern Liquid Chromatography, Second Edition, L.R. Snyder and J. J. Kirkland, (John Wiley & Sons, 1979).

## Applications

Agilent AdvanceBio Peptide Mapping columns are designed for the rapid and efficient separation of individual peptides, peptide tryptic digests and natural and synthetic peptides. For optimum results and long-term reproducibility, the use of >50% organic wash is recommended to complete each gradient.

## Column Care

The inlet frit on these columns has a nominal porosity of 2 µm. Samples that contain bioparticulate matter larger than 2 µm will plug the column inlet frit. AdvanceBio Peptide Mapping guard columns and are recommended for use with such samples.

If solvent flow appears to be restricted (high column back-pressure), check first to see that solvent flow is unobstructed up to the column inlet. If the column has the restriction, there may be particulate matter on the inlet frit.

## Storage Recommendations

In general, columns may be safely stored for short periods in most mobile phases. The AdvanceBio Peptide Mapping column can be safely stored for longer periods of time in the acetonitrile:water mobile phase typically used at the end of the gradient analysis or in 60% acetonitrile or more.

## For More Information

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