Agilent AdvanceBio Peptide Plus 2.7 µm Column for Peptide Characterization

Now you can have the best of both worlds – high peak capacity and low operating backpressure

Reduce operating costs with the AdvanceBio Peptide Plus column.

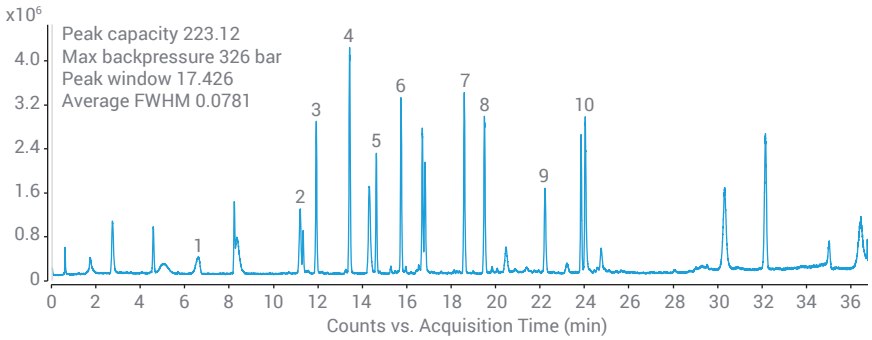
Peptide mapping and characterization is an important subset of critical quality attributes (CQAs) for the manufacture of biologic therapeutics. These analyses typically employ a reversed phase chemistry in conjunction with mass spectrometry detection in order to achieve maximum resolution and identification.

When choosing an instrumentation platform, you might consider either UHPLC or HPLC, depending on a number of factors. While the net benefit of operating UHPLC instrumentation is greater than remaining on an HPLC platform (time savings, efficiency, reduced solvent costs, etc.), this is not always feasible. UHPLC instrumentation is a more costly upfront purchase than its HPLC counterpart, including the parts, maintenance and consumables.

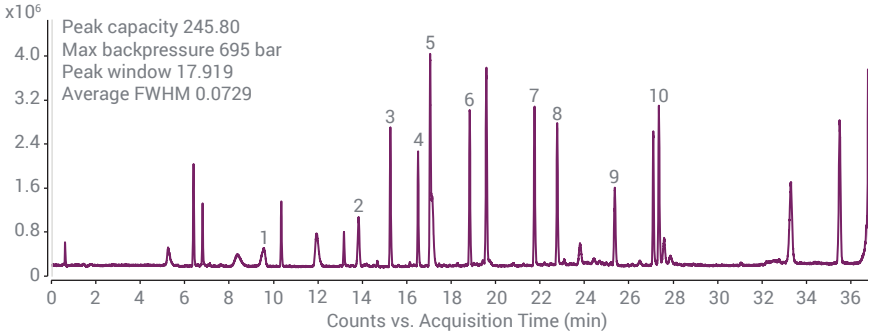
The AdvanceBio Peptide Plus 2.7 µm column is compatible with both HPLC and UHPLC instrumentation – and allows you to achieve 91% of the peak capacity of a sub two micron (STM) particle at less than half of the operating backpressure.

Agilent AdvanceBio Peptide Plus outperforms the competition: Less than half the operating backpressure with 91% peak capacity

AdvanceBio Peptide Plus 2.7 µm 2.1 x 150 mm



Waters BEH CSH 1.7 µm 2.1 x 150 mm



Both columns were flushed with three water:ACN gradients and left for four days in 0.1% FA and 5% ACN. They were then run through a sequence of two injections of 1 µg of a Lys C digest of the antibody aIL8 followed by three replicates of a 25 peptide mix. The third replicate was used for data analysis (on a G4220A 1290 binary pump with a G4226A autosampler. Data was acquired via MassHunter LC/MS Data Acquisition and MassHunter Workstation Qualitative Analysis B.10 on an Agilent 6550 Quadrupole Time-of-Flight MS. Samples were run on an Agilent 1260 Infinity II Bio-inert LC System at a flow rate of 0.4 mL/min, at 40 °C, with 0.1% FA in water (A) and 0.1% FA in ACN (B). Gradient conditions as followed in Time–%A:%B. 0 min–97:3, 2 min–97:3, 35 min–70:30, 40 min–3:97, 43 min–0:100, 43.5 min–97:3.

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This allows you to simultaneously reduce operating costs and monitor this critical CQA while maintaining compatibility across platforms. Additionally, by utilizing superficially porous particle technology, it is possible to maintain your relative peak efficiency (FWHM – Full Width Half Maximum) when compared to traditional STM particles.

AdvanceBio Peptide Plus columns provide peptide mapping identification while balancing required backpressure and instrument operating costs.

For more information on Agilent Peptide Plus columns:
www.agilent.com/chem/peptideplus

Peptide mapping solutions

Download application compendium, access webinars, and more.

www.agilent.com/chem/peptide-mapping-solutions

If you'd like to reproduce this workflow, here are the supplies you will need.

Description	Part Number
AdvanceBio Peptide Plus 2.1 x 150 mm, 2.7 µm	695775-949
UHPLC Guard, AdvanceBio Peptide Plus 2.1 x 5.0 mm, 2.7 µm	821725-954
Formic Acid Reagent Grade	G2453-85060
InfinityLab ultrapure LC/MS acetonitrile	5191-4496
InfinityLab ultrapure LC/MS standard, water	5191-4498
Ten-peptide standard, 71 µg, lyophilized, in a 2 mL vial	5190-0583
Vial, crimp/snap top, polypropylene, certified, 250 µL, 1,000/pk.,12 x 32 mm (11 mm cap)	9301-0978
Cap, snap, 11 mm, polyurethane, 500/pk	5042-6491

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