




HPLC columns

Thermo Scientific™ LC columns are available in an array of chemistries to optimize separations and provide enhanced retention or changes in elution order. Reversed-phase columns are one of the most popular matrices for bottom-up proteomics.

This extensive family of products offers a variety of particle sizes and column designs to meet all separation needs, including improved resolution, enhanced sensitivity, faster analysis, and consistent performance. Thermo Scientific™ HPLC and UHPLC columns are backed by over 40 years of experience and are supported by extensive resources and expertise.

Table 4. Overview of Thermo Scientific™ LC columns recommended for bottom-up proteomics applications.

	Acclaim PepMap 100 C18 LC column	PepSwift LC column	EASY-Spray LC column
			
Key advantage	High loading capacity	Speed	Ease of use
Packing material	Spherical, fully porous ultrapure silica	Monolithic polymer	Spherical, fully porous ultrapure silica or monolithic polymer
Particle size	2, 3, or 5 µm	Monolithic polymer	2, 3, or 5 µm or monolithic
Formats	Analytical column, trap cartridge, trap column	Analytical column, trap cartridge, trap column	Analytical column
Column diameters	0.05, 0.075, 0.1, 0.2, 0.3, 0.75, 1 mm	0.1, 0.2, 0.5 mm	0.05, 0.075, 0.2 mm
Column lengths	5, 10, 50, 250, 500, 750 mm	5, 50, 250 mm	150, 250, 500, 750 mm

Acclaim PepMap 100 C18 LC Columns

High loading capacity ideal for detection of low-abundance proteins



The Thermo Scientific™ Acclaim™ PepMap™ 100 C18 LC Columns generate high-resolution analyses of natural and synthetic tryptic peptides. These columns are ideal for peptide mapping for protein identification, biomarker discovery, and systems biology. Acclaim PepMap 100 C18 Columns have high loading capacity and are exceptionally suitable for the analysis of low-abundance peptides in complex proteomics samples. These C18 columns are preassembled with Thermo Scientific™ nanoViper™ Fingertight Fittings for easy installation.

Highlights:

- **High loading capacity**—ideal for the analysis of low-abundance peptides often found in complex proteomics samples
- **More choices**—multiple column lengths and I.D.'s to choose from, based on throughput, sensitivity, and sample amount requirements
- **High performance**—outstanding separation efficiency and excellent resolution and recovery

Acclaim PepMap 100 C18 LC Columns are available in 50, 150, 250, and 500 mm lengths, and 50, 75, 300, and 1000 μm I.D. They are compatible with TFA-free LC-MS, which minimizes suppression effects for enhanced MS sensitivity.

Learn more or place an order at
thermofisher.com/pepmap

PepSwift Monolithic Capillary LC Columns

Ideal for fast, high-resolution LC/MS applications



Thermo Scientific™ PepSwift™ Monolithic Capillary LC Columns offer fast, high-resolution LC-MS separations for bottom-up protein identification, biomarker discovery, and systems biology applications. Based on a polystyrene divinylbenzene copolymer, the monolithic structure offers a high-quality alternative to traditional microparticulate sorbents, providing important advantages to the chromatographic separation. High-sensitivity proteomics and biotech applications are easily performed using these columns.

Highlights:

- **Fast**—high-speed peptide and protein separations (<15 min)
- **High performance**—excellent sensitivity, column-to-column reproducibility, and life span
- **More choices**—wide range of column I.D. and lengths available; precolumns available to preconcentrate and desalt samples
- **Convenient**—easy column installation using nanoViper Fingertight Fittings

Learn more or place an order at
thermofisher.com/pepswift

EASY-Spray C18 LC Columns

Unique design offers improved ease of use and robust performance



Thermo Scientific™ EASY-Spray™ C18 LC Columns provide robust and reproducible nanoflow LC-MS. The unique design provides uncompromised performance and ease of use. The integrated column-emitter design eliminates dead volumes and is temperature-controlled for maximum reliability and performance. The highest-quality chromatographic media and device components enable high precision and robustness for routine operation. The columns are rigorously tested to help ensure excellent reproducibility, and are compatible for use up to 1,200 bar.

Highlights:

- **Higher peak capacity**—enables enhanced separation of complex mixtures for comprehensive proteome characterization
- **Longer gradients**—maximizes sequence coverage
- **Excellent resolution**—improves protein identification
- **Compatible**—designed for TFA-free LC-MS analysis, minimizing ion suppression effects
- **High pressure capability**—allows for fast loading and equilibration

EASY-Spray C18 LC Column design features:



- **Precision positioned glass emitter**—quality-controlled and polished, fused silica emitter with a uniform inner diameter of 7 μm delivers an exceptionally stable spray.
- **Integrated design**—column-to-emitter connection with zero dead volume delivers narrower peaks and maximized peak capacity, leading to improved sequence coverage.
- **nanoViper fitting**—easy-to-use, fingertight fitting, rated to 1,200 bar, eliminates column damage due to overtightening, and failure of experiments due to bad connections.
- **Column with integrated temperature control**—temperature control increases run-to-run reproducibility and allows the use of even longer columns and/or smaller particle sizes since elevated temperatures lower eluent viscosity and reduce the overall backpressure.

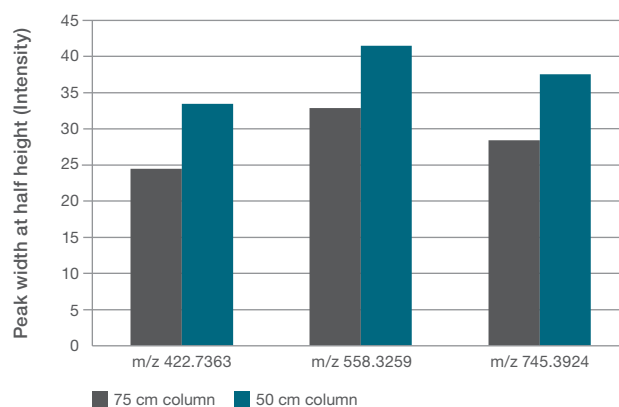


Figure 3. The peak width at half height (PWHH) values for the three peptides on two column types. Three peptides from the Pierce Peptide Retention Calibration Mixture (Cat. No. 88321) were directly compared between the 50 cm and 75 cm EASY-Spray C18 LC Column using a EASY-nLC 1200 System. Comparing results from a 75 cm column with the 50 cm column showed that for the three peptides, the PWHH values on the 75 cm column were significantly less than the same peptides on the 50 cm column.

Learn more or place an order at thermofisher.com/easyspray