

Easily Resolve Oxytocin PEGylation Reaction Products

Using Viva Wide Pore HPLC Columns

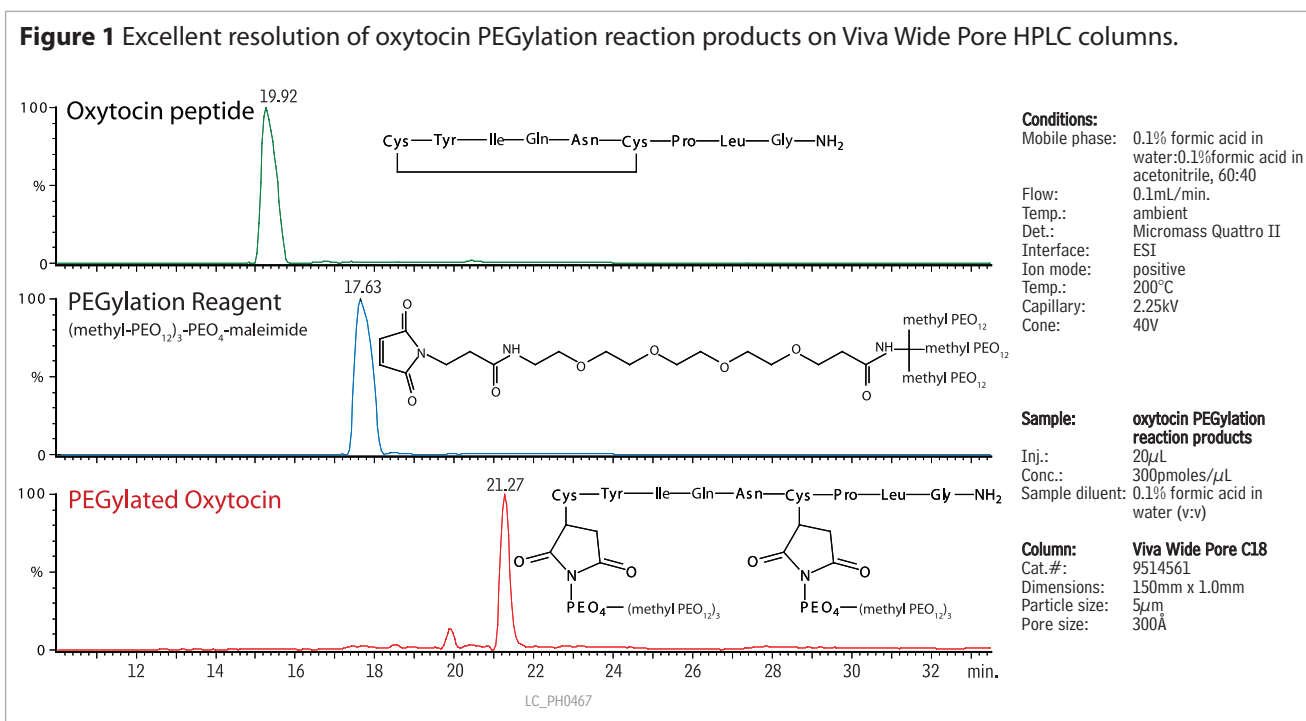
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- Ideal for PEGylation reaction monitoring.
- Easy isocratic method saves time, eliminating column equilibration time between injections.
- Largest available surface area in 250-350Å pores; engineered for proteins, peptides, and other large biomolecules.

PEGylation, the covalent attachment of polyethylene glycol (PEG) units to proteins and peptides, is an important tool in drug discovery. PEGylation is used to enhance drug delivery, while maintaining the therapeutic function of the active compound. Viva Wide Pore HPLC columns are ideal for the separation of large molecules, such as oxytocin PEGylation reaction products, as the target analytes can enter the larger pores and access more surface area, increasing retention and overall resolution. For analytes with molecular weights larger than 3,000, pore diameters of 250-350Å offer the best combination of retention and pressure stability, and Viva Wide Pore silica has the greatest available surface area in 250-350Å pores. Here we demonstrate the suitability of Viva Wide Pore HPLC columns for PEGylation reaction monitoring.

Viva columns reliably separate large, closely related compounds.

The PEGylation reaction mixture consisted of oxytocin with an excess of reducing agent tris(2-carboxyethyl)phosphine (TCEP) and (methyl-PEO₁₂)₃-PEO₄-maleimide. The oxytocin solution was mixed with ammonium bicarbonate buffer to pH 8. Excess TCEP was added and the resulting solution incubated at 60°C for 1 hour. The test solution was cooled to room temperature and a molar excess of (methyl-PEO₁₂)₃-PEO₄-maleimide was added, followed by incubation in a water bath at 40°C for 1 hour. Approximately 6 nmoles of oxytocin was injected in 20µL of deionized water with 0.1% formic acid. The extracted ion chromatograms in Figure 1 show excellent resolution for the three compounds of interest. The added retention power of Viva columns allows separation of large, closely related compounds, making it an ideal column for monitoring PEGylation reactions.



Viva C18 Columns (USP L1)

5µm Column, 1.0mm
150mm

cat. #
9514561

ordering note

For other dimensions and guard cartridges for these columns, visit our website at www.restek.com.