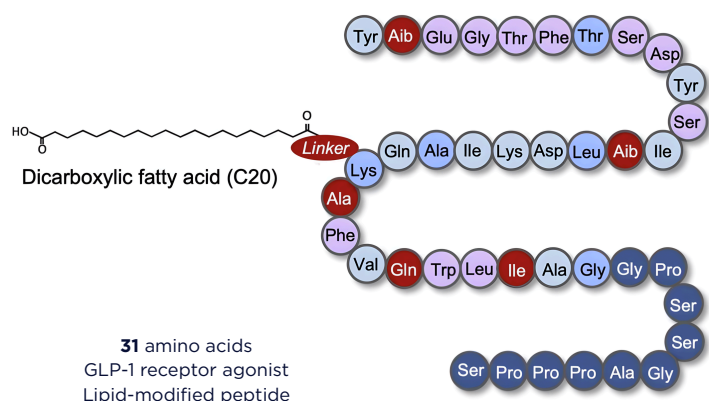


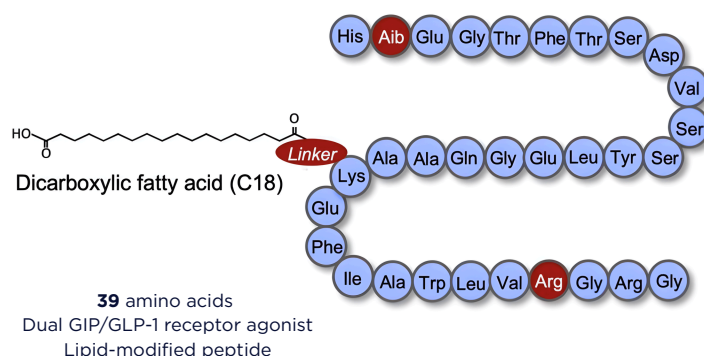
# SIELC HPLC Method for Peptide Therapeutics on Primesep™ SB by SIELC Technologies

APRIL, 2026

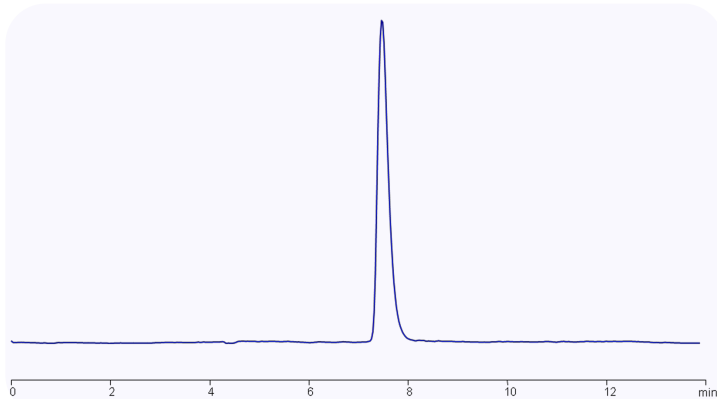
## Tirzepatide



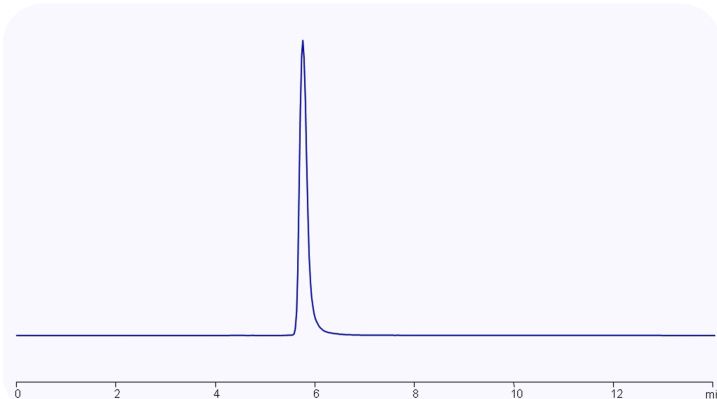
## Semaglutide



## HPLC Method



**Column:** Solid-Core Primesep SB  
**Column size:** 3.2 × 100 mm, 2.7 μm  
**Column part number:** SB-32.100.0209  
**Mobile phase:** Gradient MeCN- 40-80/0% in 10 min  
**Buffer:** AmFm pH 3.0 - 40 mM  
**Flow rate:** 0.5 mL/min  
**Detection:** U 280 nm, ESI-SIM: [M+3H]<sup>3+</sup> 1606



**Column:** Solid-Core Primesep SB  
**Column size:** 3.2 × 100 mm, 2.7 μm  
**Column part number:** SB-32.100.0209  
**Mobile phase:** Gradient MeCN- 40-80/0% in 10 min  
**Buffer:** AmFm pH 3.0 - 40 mM  
**Flow rate:** 0.5 mL/min  
**Detection:** U 280 nm, ESI-SIM: [M+3H]<sup>3+</sup> 1372, [M+4H]<sup>4+</sup> - 1029

## Key Insights

- Peptide therapeutic compounds such as Tirzepatide and Semaglutide are characterized by amphiphilic properties arising from the presence of hydrophobic lipid moieties and a polar peptide backbone, which may present challenges for chromatographic separation.
- The analysis was performed using the Primesep SB stationary phase, which provides a combined retention mechanism involving reversed-phase and ion-exchange interactions.

## Method Performance

- The selected conditions provide reproducible retention and adequate selectivity for the separation of the analytes.
- The presented chromatograms demonstrate stable retention, symmetrical peak shapes, and effective separation of the analytes. The obtained results confirm the suitability of the method for the analysis of structurally modified peptide compounds and its applicability for identification and purity assessment.