Scale-Up of a 6-mer Synthesized Peptide

using a manual HPLC system

Application performed by M. Kawakatsu at M&S Instruments, Japan

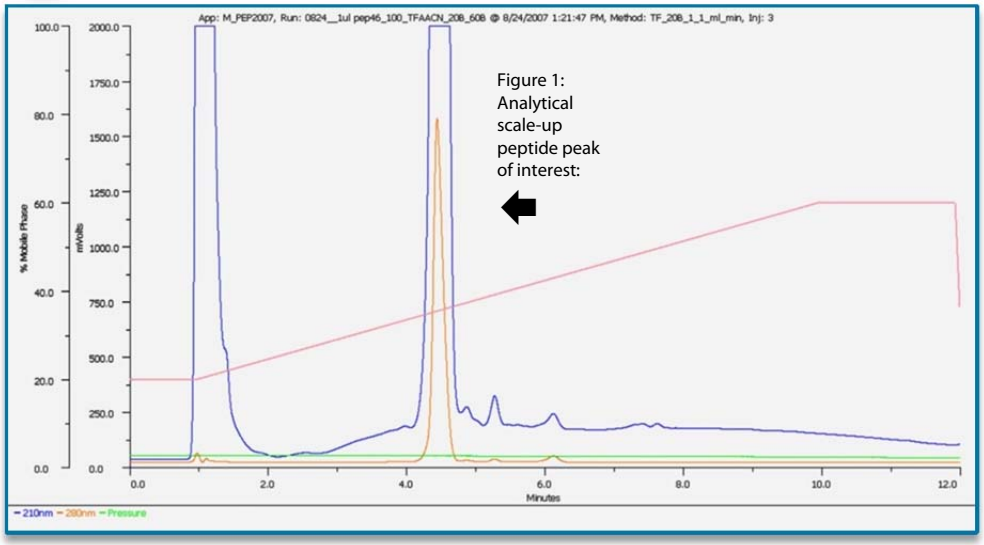

Figure 1: Analytical scale-up peptide peak of interest:

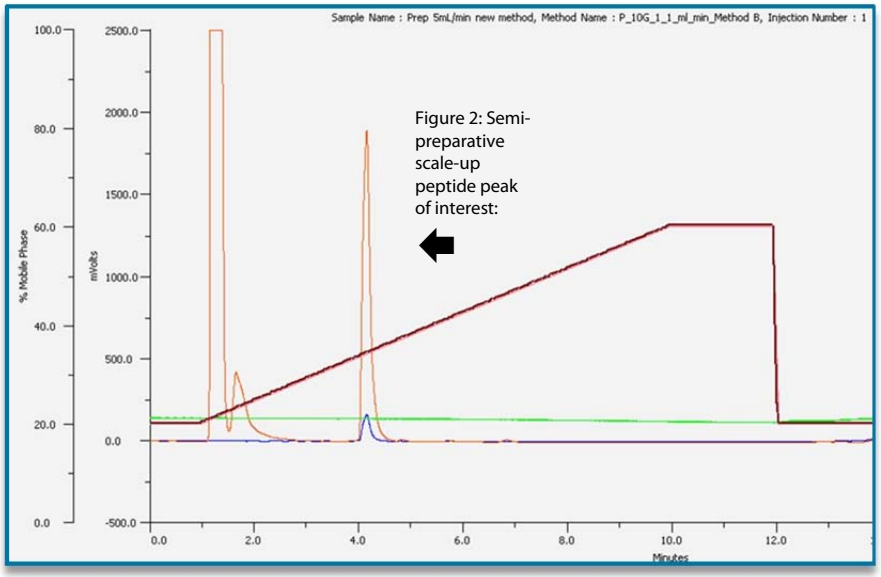

Figure 2: Semi-preparative scale-up peptide peak of interest:

Analytical & Semi-Preparative Conditions

Sample: 6-mer synthesized peptide (sequence: RVIVIY) in dimethylsulfoxide at 50 mg/mL

Load:

- Analytical: 50 µg
- Semi-Preparative: 2.5 mg

HPLC column: Sepax HP 10 µm

- Analytical : 4.6 x 100 mm C18 at 1.1 mL/minute
- Semi-Preparative: 10 x 100 mm C18 at 5 mL/minute

Mobile phase:

- A: 0.1% trifluoroacetic acid
- B: 0.1% trifluoroacetic acid/acetonitrile

Wavelength: 210 & 280 nm

The Gilson Manual HPLC System was used to determine semi-preparative chromatographic conditions for scale-up of the 6-mer synthesized peptide using optimal analytical conditions. Reverse phase chromatography was performed with detection at 280 nm selected for scale-up. The peptide peak of interest eluted at ~4 minutes (Figure 1). Scale-up to semi-preparative separation shows the synthesized peptide (2.5 mg) on scale using a 0.05 mm pathlength flow cell (Figure 2).

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