

The-LCP

thermo-stabilized platform for high-temperature nanoLC separations

Features:

- ▶ nanoLC is integrated with ESI (patent pending)
- ▶ Temperature varied from room temperature to 65°C with 0.05°C accuracy
- ▶ Two CCD cameras to observe electrospray
- ▶ Variable length fused silica capillary precolumn (2-5 cm) and analytical column (10-200 cm)
- ▶ Flow rates from 10 to 400 nL/min

Front View



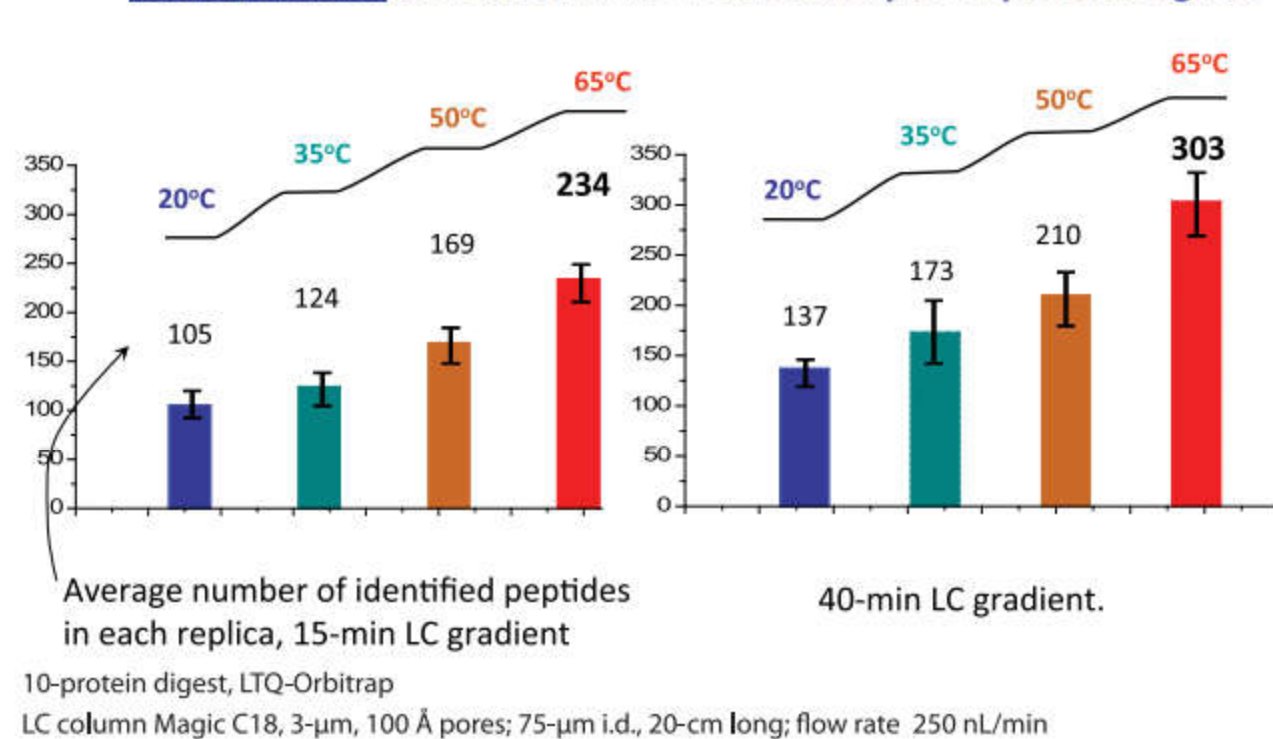
Back View



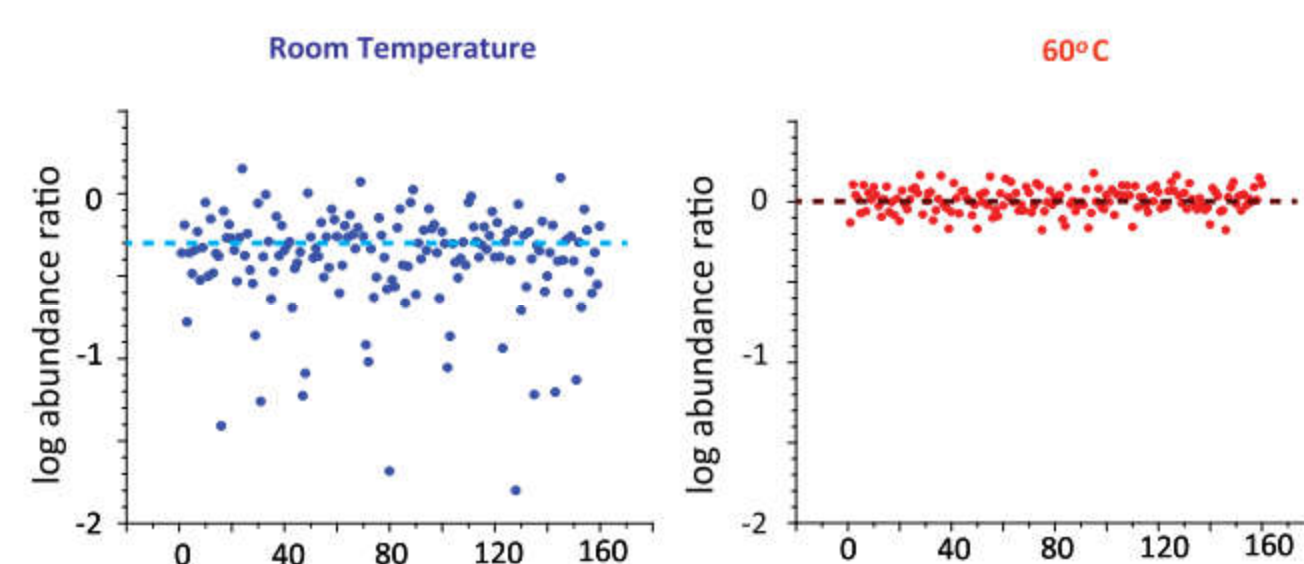
Benefits:

- ▶ Improved resolution and reproducibility in HPLC
- ▶ Improved peptide/protein recovery
- ▶ Lower back pressure for UPLC

More peptides identified in the LC-MS analysis of protein digests



Improved reproducibility of quantitative proteomic profiling

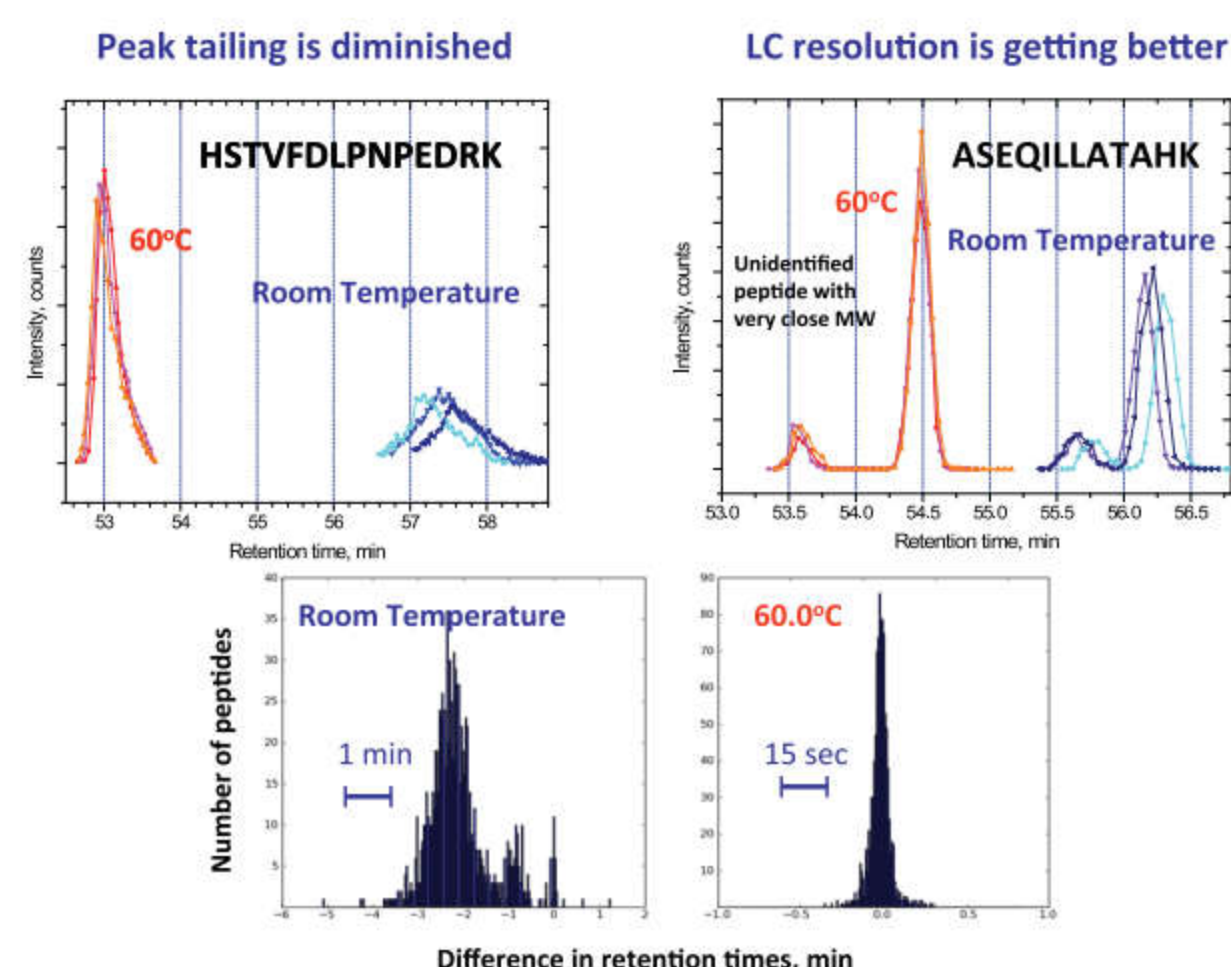


Normalized areas of 160 LC peaks from the LC-MS analysis of a 10-protein digest. LC separations were performed using a 40-min long gradient at room temperature and at 60°C in triplicates.

Averaged peak area gain factor is 2.2 for LC-MS signals recorded at 60°C compared to those at room temperature.

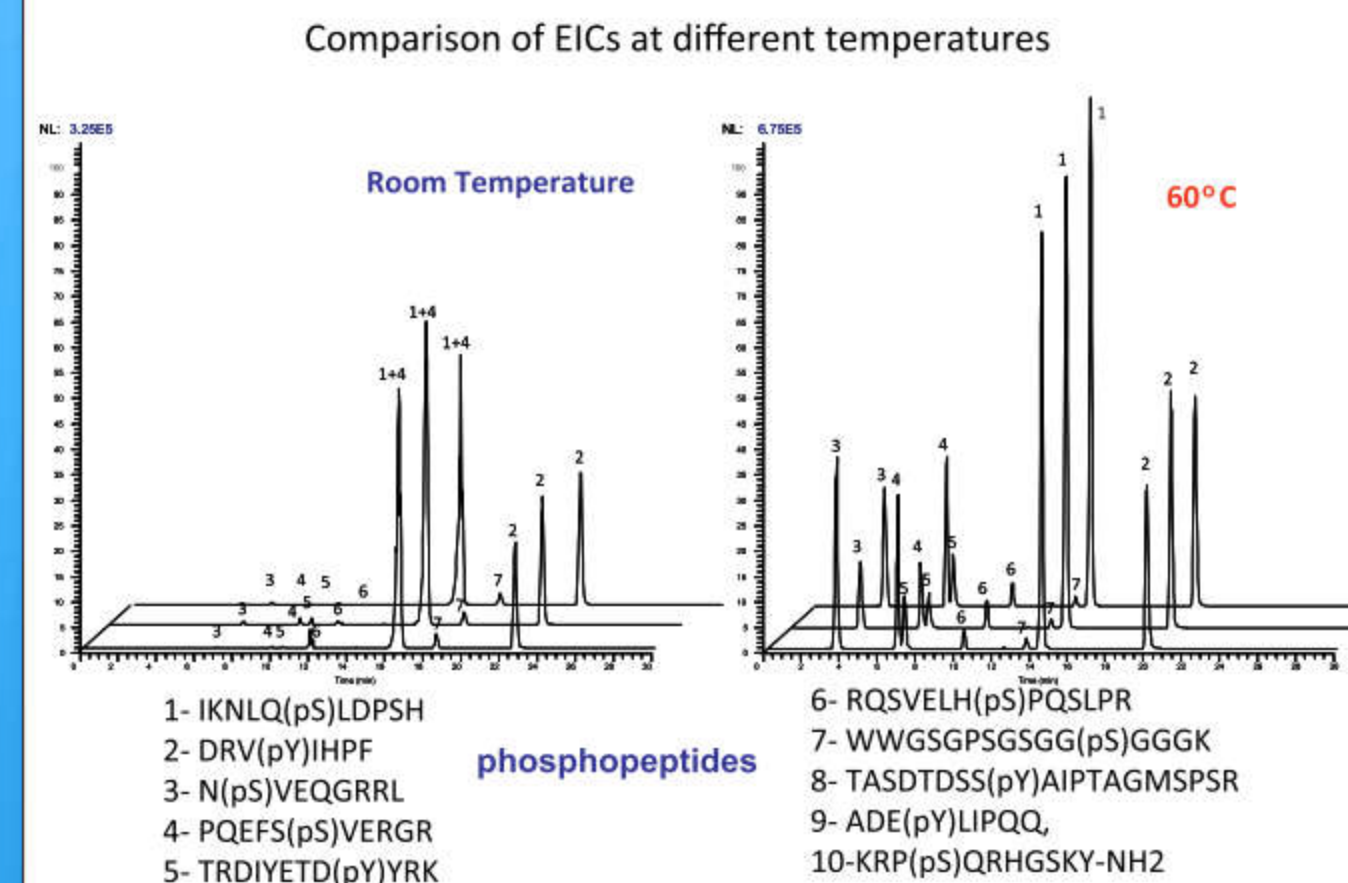
LC column Magic C18, 3- μ m, 100 Å pores; 75- μ m i.d., 20-cm long; flow rate 250 nL/min

Superior retention time reproducibility between consecutive LC runs



LC-MS analyses of lysates of mouse kidney mitochondria at RT (~20-22°C) and at 60.0°C. Significant improvement in chromatographic reproducibility, resolution, decrease in peak tailing, increase in peak heights.

Improved detection limit in the LC-MS analysis of phosphopeptides



The NanoLC 1D plus Eksigent LC system combined with LTQ/Orbitrap MS, LC column - 75- μ m i.d., 20-cm long packed with - Magic C18 AQ, 3- μ m particles, 200 Å pores; LC gradient - 40 min (Water/0.2% FA : ACN): 2-40%, Flow rate - 250 nL/min