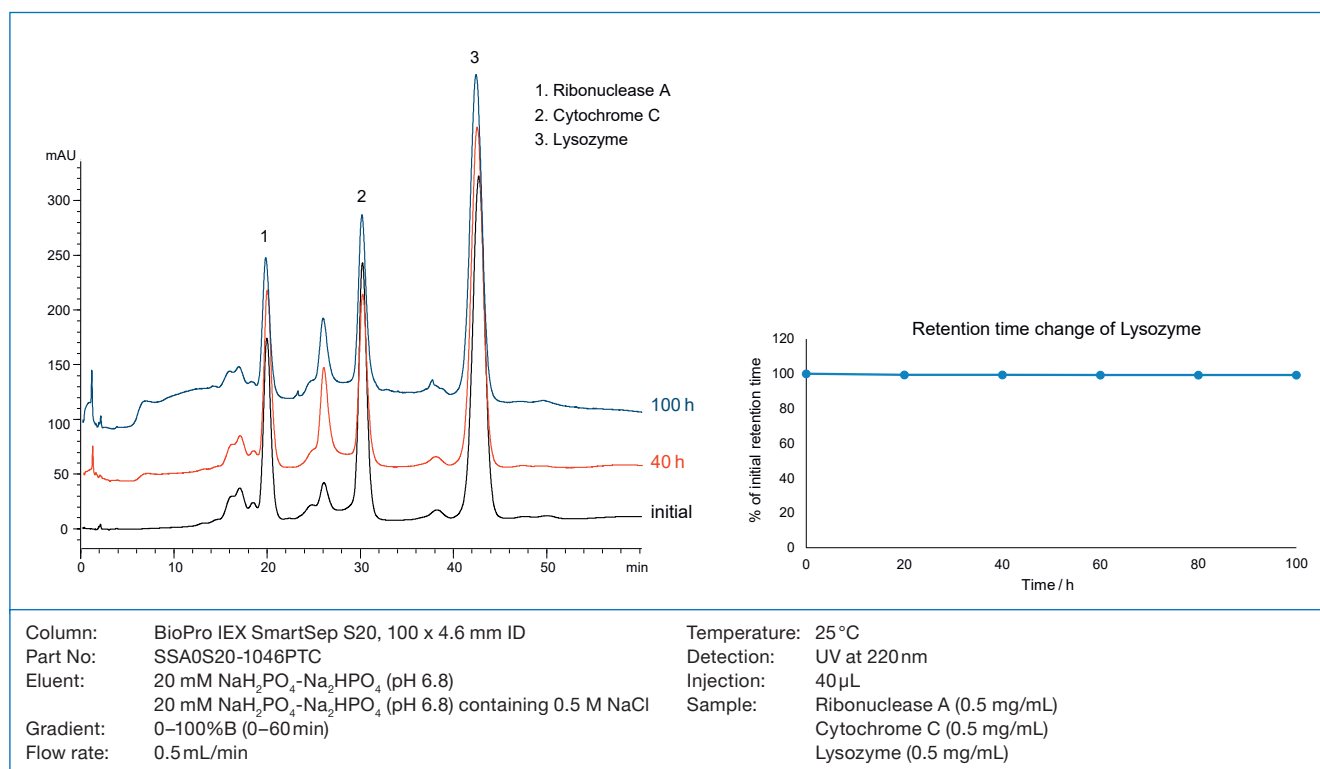
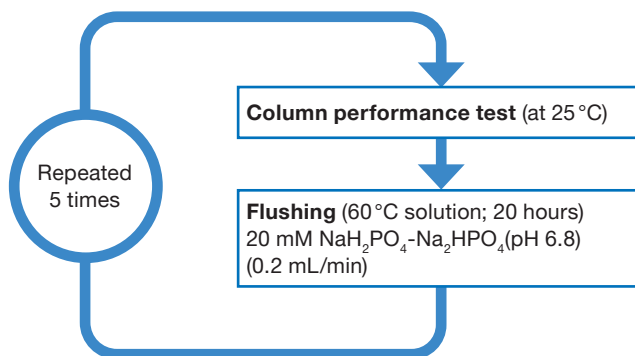


High Temperature Stability of BioPro IEX SmartSep Resins

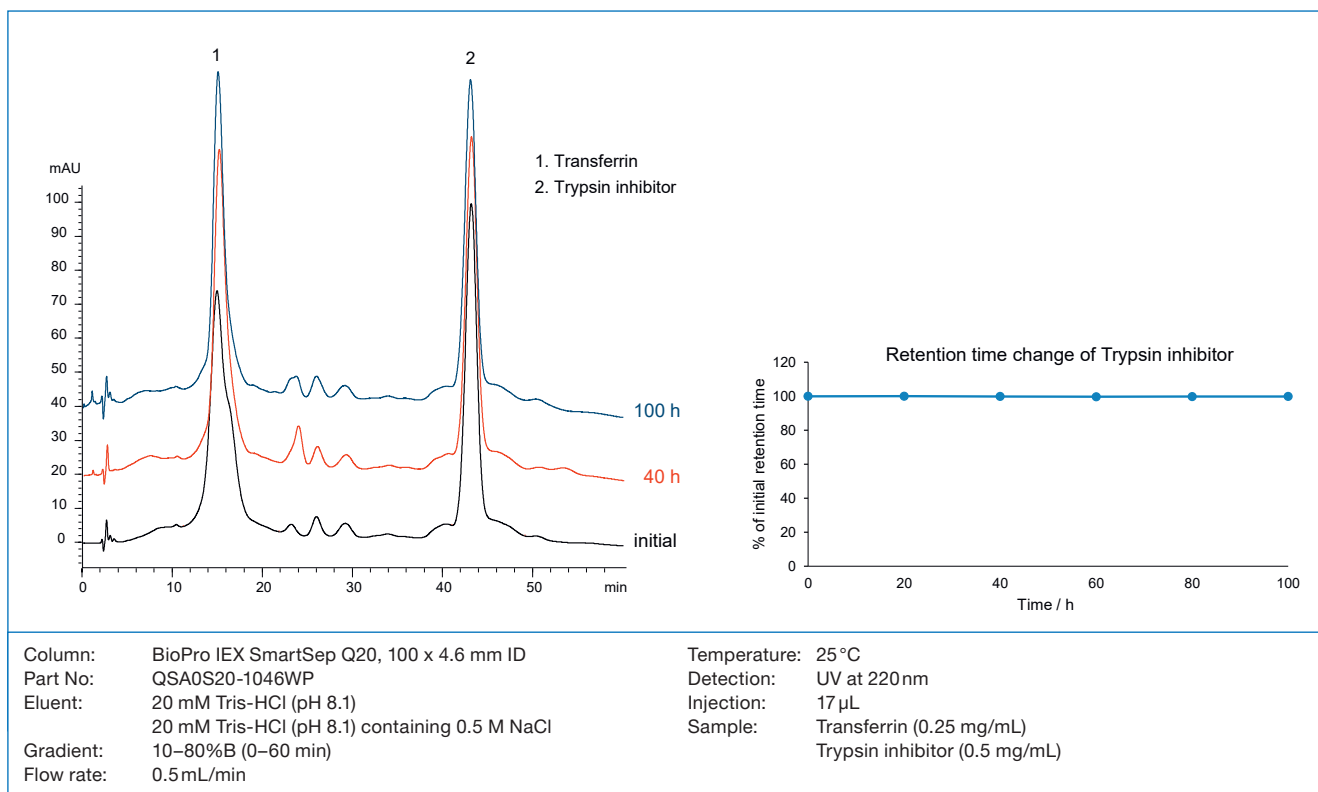
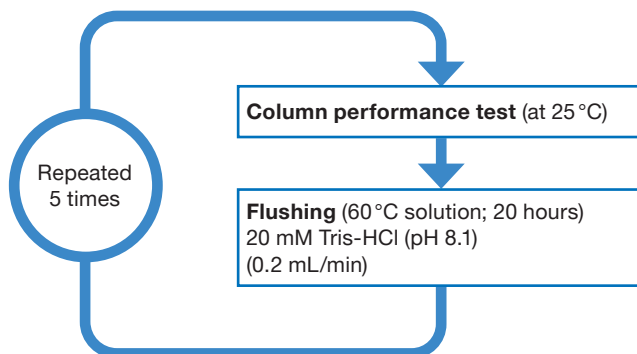
Ion exchange chromatography (IEX) is a well-established method for the purification of biomolecules such as proteins, monoclonal antibodies or oligonucleotides. In order to avoid the loss of product, it is important to optimise the method. The temperature, for example is a useful parameter to improve resolution and therefore the overall process productivity. BioPro IEX SmartSep resins can be used at temperatures up to 60 °C, offering great flexibility in method development.

The following examples show the extended temperature stability of the BioPro IEX SmartSep resins. In a first example, the BioPro IEX SmartSep S20 and Q20 resins were flushed with a buffer at 60 °C for 20 hours. The column performance test at room temperature with Ribonuclease A, Cytochrome C and Lysozyme showed no retention time shift for the proteins investigated – even after repeating the procedure for 5 times! Furthermore, no change in the separation or peak distortion could be observed for BioPro IEX SmartSep Q and S resins even after 100 hours of exposure to a 60 °C solution.

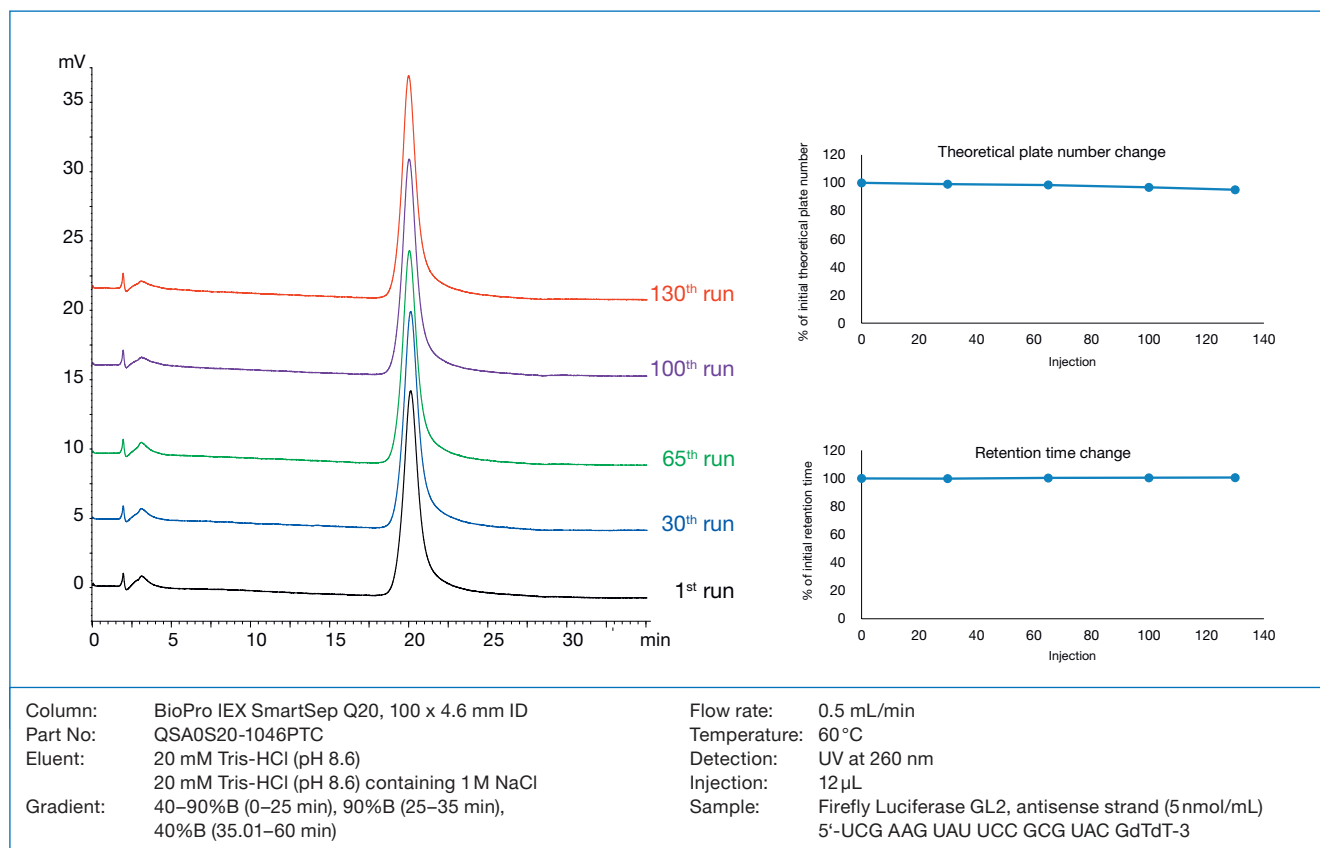
Stability Test Conditions for BioPro IEX SmartSep S20



Stability Test Conditions for BioPro IEX SmartSep Q20



Even under more practical conditions for the purification of oligonucleotides the BioPro IEX SmartSep Q resin maintained its performance. The elution profile of an antisense oligonucleotide remained constant even after injecting the sample in 130 runs at 60 °C. There is no retention time shift and the column efficiency remains the same.



Conclusion

These experiments demonstrate the excellent temperature stability of the BioPro IEX SmartSep resins. The resins maintain their performance when used with higher eluent temperatures. This can be useful for many applications such as oligonucleotide purifications and offer a great flexibility in method development.

*More information on the benefits
of BioPro IEX materials can be found
on YMC website www.ymc.eu
or just contact your YMC representative.*