

Effect of ambient temperature on Pluronic polymer matrix for high-resolution CE-SSCP

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The use of Pluronic polymer matrix has opened up new opportunities for capillary electrophoresis–single strand conformation polymorphism (CE-SSCP) analysis by evolved resolution. However, ambient temperature affects to Pluronic polymers in the inlet and outlet part of column that temperature is not controlled, while the remaining part was kept at 35 °C. A set of experiments to control the ambient temperature of the CE was performed with the aim of enhancing the reliability of the analysis using Pluronic F108 matrix. The resolution to separate 2 single-base-pair-differing DNA fragments was significantly enhanced by changing the temperature from 19 to 30 °C, and the viscoelastic properties of the polymer matrix were also investigated to reveal how the development of gels in Pluronic solutions affects the resolution of CE-SSCP. We found that the column inlet and outlet temperatures of the column have to be controlled to optimize the resolution in CE-SSCP by using the Pluronic matrix.

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