ABSTRACT

DETERMINATION OF SEPTONEX IN PHARMACEUTICAL PREPARATIONS USING CAPILLARY ZONE ELECTROPHORESIS WITH CONTACTLESS CONDUCTIVITY DETECTION

A new method of capillary zone electrophoresis with contactless conductivity detection for the determination of septonex in pharmaceutical preparations was devised. Optimal conditions for the separation and determination of septonex were: background electrolyte 30mM MES of pH 7.0 (adjusted with 20mM TRIS) containing 12.5mg/ml of (2-hydroxypropyl)-β-cyclodextrin, voltage 25kV, temperature 25°C and sample injection for 15 seconds under the pressure of 50mbar. N,N-dimethylethanolamine (200µg/ml) was used as internal standard. The peak of septonex was satisfactorily separated from the peak of internal standard as well as from the EOF. The analysis was carried out in a fused-silica capillary (internal diameter 50µm, total length 75cm and the length to the detector 45cm). The separation took less than 4 minutes and the overall analysis time involving appropriate rinsing of the capillary was less than 16 minutes. The calibration curve was linear in the range 75µg/ml - 300µg/ml of septonex, correlation coefficient r = 0.9976. The LOD was 9µg/ml and LOQ was 30µg/ml of septonex. Unsuitable repeatability of peak areas of septonex (caused probably by insufficient elimination of the adsorption of the analyte on the inner walls of the fused-silica capillary) was observed when determining septonex in a real pharmaceutical preparation. This problem will be presumably solved by adding an organic solvent into the electrolyte or by using modified separation capillaries.