

Abstract

Capillary zone electrophoresis (CZE) with UV-photometric detection at 206 nm was used for the determination of degree of chemical purity, limit of detection and limit of quantitation of antimicrobial cationic peptide halictine and its 25 analogs. Halictine and its analogs were characterized by their effective electrophoretic mobilities corrected to reference temperature 25 °C in several acidic background electrolytes. Separations of mixtures of structurally related analogs of halictine were performed by capillary zone electrophoresis (CZE) and micellar electrokinetic chromatography (MEKC). The highest values of separation efficiency, up to $2.36 \cdot 10^5$ theoretical plates per meter, were achieved by CZE in the background electrolyte containing 30 mM phosphoric acid, 25 mM Tris and additive of cationic surfactant 0.4 mM didodecyldimethylammonium bromide (DDAB), pH 2.85. The highest values of resolution of CZE separations of peptides were found in background electrolyte composed of 30 mM phosphoric acid, 25 mM Tris, 0.4 mM DDAB and 0.1 % (m/v) hydroxyethylcellulose, pH 2.84.