Spectrophotometric Determination of Levodopa in Levodopa Tablets by Flow Injection Analysis

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A FIA method for the determination of levodopa in levodopa tablets was studied, employing $FeCl_3$ as the chromagenic reagent. A microcomputer controlled flow injection analysis system coupled with spectrophotometer was used. The sample solution was injected into the carrier stream, which was a solution containing 0.0032 mol/L $FeCl_3$-0.03 mol/L HCl, and detected at 728 nm. A rate of measurements was 100 times per hour. The linear range was 50～1600 μg/ml and detection limit 10 μg/ml ($r = 0.9992$). The proposed method is simple, rapid and accurate. The average recoveries of levodopa in levodopa tablets were 97.88%～103.4% with their relative standard deviation less than 3.2%.

Key words Flow injection analysis; Levodopa; Levodopa tablet

钾通道启开剂 Pinacidil 型氰胍、硫脲的合成及其降压活性

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Pinacidil 是氰胍类钾通道启开剂的代表，1987 年在丹麦首次上市，最近在美国得到批准用于治疗高血压。Pinacidil 是一个较好的新型降压药，但是它的组织选择性较差，可引起一些副作用。本文根据 Pinacidil 类化合物的定量构效关系(QSAR)，设计并合成了 8 个氰胍和 4 个硫脲类化合物，分离鉴定了三个亚胺类副产物，它们是 2-(2′-甲基哌啶基)-4-(甲硫基-3′-吡啶氨基)双亚胺(BP01)，2-(3′-甲基哌啶基)-4-(甲硫基-3′-吡啶氨基)双亚胺(BP02)，*N*-(2-甲基环己胺甲酰基)-(甲硫基-3′-吡啶氨基)亚胺(BP03)。通过元素分析，红外，质谱和氢核磁共振确证了所合成化合物的结构。初步的药理筛选试验表明，所有化合物均有不同程度的降压活性，其中 PC019 降压活性最强，深入的药理工作正在进行之中。