



Simple Validated High Performance Liquid Chromatography Method for Acetaminophen Analysis

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SUMMARY. A very fast, simple, accurate, and precise method is reported for analysis of acetaminophen (ACT). New method development and validation is carried out using high performance liquid chromatography (HPLC). The detector which was utilized with HPLC is ultra-violet (UV). C18 column with reverse phase was utilized for this method at a wavelength of 254 nm; p-aminoacetophenone (PAP) was used as internal standard. Both the ACT and IS were spiked in drug free plasma and the method was validated in serum samples. The chromatographic conditions used were C18 column (made by Welchome, 4.6 × 150 mm, 5 μm), with security guard with the mobile phase which were used in this method was phosphate buffer and acetonitrile in ratio of 89:11 v/v, respectively. The precision was calculated to be 2.40-2.80% intraday and 3.4-10% inter-day, respectively, and accuracy was described as percent recovery which was calculated in between 92.0 to 109.5%.

RESUMEN. Se informa de un método muy rápido, simple, preciso y seguro para el análisis de acetaminofén (ACT). El desarrollo y validación del nuevo método se llevó a cabo mediante cromatografía líquida de alta resolución (HPLC). El detector que se utilizó con HPLC es ultravioleta (UV). La columna C18 con fase inversa se utilizó para este método a una longitud de onda de 254 nm; se usó p-aminoacetofenona (PAP) como patrón interno. Tanto el ACT como el IS se añadieron al plasma libre de drogas y el método se validó en muestras de suero. Las condiciones cromatográficas utilizadas fueron la columna C18 (hecha por Welchome, 4,6 × 150 mm, 5 μm), con guardia de seguridad; la fase móvil que se utilizó en este método fue tampón fosfato y acetonitrilo en una proporción de 89:11 v/v, respectivamente. La precisión se calculó en 2.40-2.80% intradía y 3.4-10% entre días, respectivamente y la seguridad se describió como porcentaje de recuperación que se calculó entre 92.0 y 109.5%.

KEY WORDS: acetaminophen, bioequivalence studies, high performance liquid chromatography, p-aminoacetophenone.

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