Optimalisasi & validasi metode analisis asam traneksamat dalam krim pemutih kromatografi cair kinerja tinggi fase terbalik = Optimization & validation of the tranexamic acid analysis method in reverse phase high performance liquid chromatography whitening cream

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Abstrak

Krim pemutih adalah kosmetik yang mengandung bahan-bahan dengan sifat yang dapat memudarkan bintik-bintik hitam atau coklat pada kulit atau hiperpigmentasi. Asam traneksamat adalah salah satu agenpigmentasi antihipperadangan yang potensial yang bekerja melalui penghambatan plasmin. Asam traneksamat digunakan dalam formulasi kosmetik pada konsentrasi 2,5% sebagai pemutih dan pelembab. Penelitian tentang analisis asam traneksamat baik dalam kosmetik maupun produk farmasi lainnya dengan kromatografi cair kinerja tinggi (HPLC) sampai sekarang belum dilakukan secara langsung (tanpa derivatisasi). Oleh karena itu, penelitian ini bertujuan untuk memperoleh metode analisis sederhana dan cepat asam traneksamat (tanpa derivatisasi) dalam sampel kosmetik krim menggunakan kromatografi cair kinerja tinggi (HPLC) fase terbalik menggunakan air sebagai pelarut. Kondisi analisis
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ABSTRACT
Whitening creams are cosmetics that contain ingredients with properties that can fade black or brown spots on the skin or hyperpigmentation. Tranexamic acid is one of the potential anti-inflammatory pigmentation agents that works by inhibiting plasmin. Tranexamic acid is used in cosmetic formulations at a concentration of 2.5% as a whitener and moisturizer. Research on the analysis of tranexamic acid in cosmetics and other pharmaceutical products with high performance liquid chromatography (HPLC) has not been carried out so far (without derivatization). Therefore, this study aims to obtain a simple and fast method of analysis of tranexamic acid (without derivatization) in cream cosmetic samples using reverse phase high-performance liquid chromatography (HPLC) using water as a solvent. Optimal analysis conditions used are UV detectors at a wavelength of 210 nm and Acetonitrile - Aquabidest - Phosphoric Acid (64: 34: 2) as a mobile phase and a flow rate of 0.8 mL / minute, the retention time of the analyte is obtained in the 2nd minute. Analytical methods that meet the validation requirements include accuracy, precision, linearity, selectivity, limit of detection, and limit of quantitation. This method has been proven to be applied for the analysis of Tranexamic Acid levels in samples with a concentration of 1.02%.