

Rapid and Simple HPLC Method for the Simultaneous Determination of Urocanic Acid Isomers in Human Skin

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A high-performance liquid chromatography (HPLC) method for the determination of urocanic acid isomers extracted from human skin has been developed. Urocanic acid is a compound present in skin, accumulated in trans form with known photoprotective properties. This isomer can be photoisomerized to cis-Urocanic acid, a mediator of the cutaneous immunosuppression. In this work, the HPLC separation was achieved on a Cyclobond I TM 2000 β -Cyclodextrin column. The mobile phase was a 15:85v/v solution of phosphate buffer-acetonitrile in an isocratic elution, at a flow rate of 3 mL min⁻¹. The diode array detector was operated at 276 nm, and column temperature was adjusted at 20°C. The urocanic acid isomers peaks are well-resolved and free of interference from matrix components. The extraction and analytical method developed in this work allows the quantification of urocanic acid isomers with linearity and precision, establishing a simple and fast method of urocanic acid isomer quantification extra