Biochemistry & Physiology: Open Access

Short Communication Open Access

Screening and Confirmation Methods for the Qualitative Identification of Glipizide in by LC-MS/MS

Washing Ton*

Department of Biochemistry and Molecular Biology, Federal University of Ciara, Brazil

Introduction

E–ethyl (phenyl) sulfonic salt the latter, a alkyl radical substance, is created completely among the presence of alcohol (used as a solubilize), and doesn't seem on use of acetonitrile. III is shown to convert to II on continued heating in acid. The drug degrades slowly in water at constant temperature, and each II and III is also seen among the chromatograms until the tip of the study [1] .The heating of the drug in alkali (0.1M Na OH) at 85°C yields 5-methyl-2-pyrazinecarboxylic acid (IV), beside a little amount of 4-(2-aminoethyl) benzene sulfonamide (I). On extended heating among identical condition, a recent product, 4-(2-aminoethyl)-N, Nbis((cyclohexylamino)carbonyl) benzene sulfonamide (VI) is created in little quantities. At the lower temperature of 40°C, the drug converts below every hydrolytic condition and in each the absence and presence of sunshine to product II, III, or IV, beside a recent product, 1-cyclohexyl-3-((4-(2aminoethyl)phenyl) sulfonic urea [2].

The sunshine catalyzes formation of V, and it's designed until one or quantity, once that its level decreases. The drug remains stable in half-hour H2O2, except that product II and III seem as little peaks because of acidic character of the peroxide resolution. Also the drug remains unaffected in solid state below thermal and photolytic stress conditions. Supported the results, an additional complete image on degradation pathway of the drug is obtained; highlight a transparent advantage of the approach prompt by International Conference on Harmonization. LC–MS/MS methodology was developed and valid for determination of glipizide and its four metabolites in human waste. The method was with success applied to urinary study in healthy volunteers. For the primary time, 4-cis-OH-gp and 3-trans-OH-gp were found and illustrious among the study [3].

Isolation and characterization of degradation product the foremost necessary degradation product II designed in acidic hydrolytic condition once seventy two h at 85°C was separated as fine crystals once concentrating the reaction resolution to ~30% of its original volume. The crystals were filtered, washed with water, associate degreed dried in associate passing vacuum desiccator. The merchandise IV designed in alkaline hydrolytic medium was isolated by extracting the stressed resolution with chloroform [4]. The organic layer was separated and dried over anhydrous salt. The solvent was recovered below vacuum employing a rotary evaporator, leading to associate off-white amorphous powder that was finally dried in air. Purity of those isolated product determined by HPLC analysis, and their structures were established by comparison of FT-IR, 1HNMR, and mass data with the drug. The identity of varied degradation product was established by LC–MS analyses of the chosen samples [5].

To any check that the planned structures of the many degradation products, an attempt was created to correlate calculated lipophilicity of the every structure with its extraction order on HPLC. The lipohilicity determined for the drug and degradation product follow Clog P module of Cheraw extremist half-dozen.0. The extraction time (try) and put together the corresponding Clog P values of the drug and product unit of measure enclosed [6]. It's evident that the Clog P values related to well to the extraction pattern on LC recording evidently, therefore supporting the propositions created earlier the man oeuvre was valid as per ICH tips and put together the results were found to be at intervals the suitable vary. Hence, the planned methodology area unit used for the routine management of the medication and will even is applied to pharmacokinetic studies.

References

1. Stability testing of new drug substances and products, International Conference on Harmonization, IFPMA, Geneva, 2003.
2. P Kovarikova, J. Klimes, J. Dohnal, L. Tisovska (2004) . HPLC study of glimepiride under hydrolytic stress conditions. J Pharm Biomed Ana 36(1):205-9.
3. Bösenberg LH, Van Zyl DG (2008). The mechanism of action of oral antidiabetic drugs: a review of recent literature. J Clin Endocrinol Metab 13: 80-88.
4. Simard JM, Woo SK, Schwartzbauer GT, Gerzanich V (2012). Sulfonylurea receptor 1 in central nervous system injury: a focused review. J Cereb Blood Flow Metab 32(9): 1699–1717.
5. Meloni G, Meloni T (1996). Glyburide-induced acute haemolysis in a G6PD-deficient patient with NIDDM. Br. J. Haematol 92(1):159-60
6. Glucotrol XL- glipizide tablet, extended release. DailyMed. (2018) Retrieved 31 July 2020.

***Corresponding author:** Washing Ton, Department of Biochemistry and Molecular Biology, Federal University of Ciara, Brazil; E-mail: Washington@ton.br

Received October 07, 2021; **Accepted** October 21, 2021; **Published** October 27, 2021

Citation: Ton W (2021) Screening and Confirmation Methods for the Qualitative Identification of Glipizide in by LC-MS/MS. Biochem Physiol 10: 341.