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DETERMINATION OF CYANIDING 3-GLUCOSIDE IN RAT PLASMA USING LC-MS/MS AND ITS APPLICATION TO A PHARMACOKINETIC STUDY OF ARONIA EXTRACTS

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Cyanidine-3-glucoside(C3G) is the most abundant in the aronia extract and has an excellent antioxidation, antidiabetic activity and excellent anti-inflammatory and antipruritic effects. Thus it has been increasingly utilized as health functional foods and materials. A simple and rapid LC MS/MS method was developed and validated to determine the levels of cyanidine-3-glucoside in rat plasma. Cyanidine-3-glucoside was extracted from 50 µL of plasma treated with 25 µL of 1 M HCl, stored on ice after protein precipitation with 20% trifluoroacetic acid. Chromatographic separation was performed on Agilent Poroshell 120 EC- C18 column (4.6 x 50 mm id, 2.7 µm). The mobile phase consisted of 0.1% formic acid in water - methanol (6:4, v/v) and the flow rate was 0.3 mL/min. The total chromatographic run time was 5.0 min. Detection was performed on a triple quadrupole mass spectrometer equipped with positive-ion electrospray ionization by selected reaction monitoring of the transitions at m/z 449.05 > 287.2. The lower limit of quantification was 2.5 ng/mL and the linear range was 2.5 500 ng/mL (r ≥ 0.9966). Cyanidine-3-glucoside All validation data, including selectivity, precision, accuracy, matrix effect, recovery, dilution integrity, and stability, were well within acceptance limits. This newly developed bioanalytical method was simple, highly sensitive, required only a small volume of plasma (50 µL), and was suitable for application in pharmacokinetic studies after oral administration of a standardized aronia extracts in rat that used serial blood sampling.

Biography

Soon Uk Chae is a graduate student with major in pharmacology/pharmacokinetics of The Catholic University of Korea. His research interests are bioanalysis, non-clinical pharmacokinetics, *In Vivo* drug-drug interaction study.

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