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FLAVONE C-GLYCOSIDES AND CUCURBITACIN GLYCOSIDES FROM CITRULLUS COLOCYNTHIS

ABBAS DELAZAR, SIMON GIBBONS, ALI REZA KOSARI, HOSSEIN NAZEMIYEH, MASOUD MODARRESI, LUTFUN NAHAR, SATYAJIT D. SARKER

Abstract:

Citrullus colocynthis (L.) Schrad. (Cucurbitaceae) is an Iranian medicinal plant that has traditionally been used as an abortifacient and to treat constipation, oedema, bacterial infections, cancer and diabetes. As part of our on-going studies on Iranian medicinal plants, thorough phytochemical investigation was carried out on this plant. The reversed-phase preparative HPLC was employed to isolate compounds from the butanol fraction of the hydro-methanolic (70%) extract of the fruits of the locally grown C. colocynthis. Structures of the isolated compounds [1-5] were elucidated by spectroscopic means. The antioxidant property of the flavonoids 1-3 was determined by the 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay. Three flavone glucosides, isosaponarin [1], isovitexin [2] and isoorientin 3′-O-methyl ether [3] and two cucurbitacin glucosides, 2-O-β-D-glucopyranosylcucurbitacin I [4] and 2-O-β-D-glucopyranosylcucurbitacin L [5] were isolated and identified. Flavonoids 1-3 showed significant antioxidant properties. Since reactive oxygen species are important contributors to tissue injury, inflammation, cancer and many other ailments, the antioxidant properties of 1-3 probably contribute, at least to some extent, to the pharmacological and traditional medicinal uses of the C. colosynthis.

Keywords:

Citrullus colocynthis ، Cucurbitaceae ، Isosaponarin ، Isovitexin ، Isoorientin 3′-O-methyl ether ، Cucurbitacin I ، Cucurbitacin L ، DPPH

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