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Clausenidin from *Clausena excavata* induces apoptosis in hepG2 cells via the mitochondrial pathway.

Peter M Waziri^{ab}, Rasedee Abdullah^c, Swee Keong Yeap^d, Abdul Rahman Omar^d, Ahmad Bustamam Abdul^a, Nur Kartinee Kassim^e, Ibrahim Malami^a, Thiruvethan Karunakaran^e, Mustapha Umar Imam^f

^aMAKNA Cancer Research Laboratory, Institute of Bioscience, University Putra Malaysia, Serdang, Selangor, Malaysia

^bDepartment of Biochemistry, Kaduna State University, Main Campus, PMB 2336, Kaduna, Nigeria

^cDepartment of Veterinary Pathology and Microbiology, Faculty of Veterinary, University Putra Malaysia, Serdang, Selangor, Malaysia

^dLaboratory of Vaccine and Therapeutics, Institute of Bioscience, University Putra Malaysia, Serdang, Selangor, Malaysia

^eDepartment of Chemistry, Faculty of Science, University Putra Malaysia, Serdang, Selangor, Malaysia

^fSchool of Public Health, Zhengzhou University, Zhengzhou city, Henan Province, PR China

petermwaziri@gmail.com

rasedee@gmail.com

skyeap2005@gmail.com

aro675@gmail.com

ahmadbstmm@yahoo.com

kartinee@upm.edu.my

keepibinformed@yahoo.co.uk

thiruvethan_90@yahoo.com

mustyimam@gmail.com

Abstract

Ethnopharmacological relevance

Clausena excavata Burm.f. is used locally in folk medicine for the treatment of cancer in South East Asia.

Aim of the study

To determine the mechanism action of pure clausenidin crystals in the induction hepatocellular carcinoma (hepG2) cells apoptosis.

Materials and methods

Pure clausenidin was isolated from *Clausena excavata* Burm.f. and characterized using ¹H and ¹³C NMR spectra. Clausenidin-induced cytotoxicity was determined by MTT assay. The morphology of hepG2 after treatment with clausenidin was determined by fluorescence and Scanning Electron Microscopy. The effect of clausenidin on the apoptotic genes and proteins were determined by real-time qPCR and protein array profiling, respectively. The

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