

Cytotoxic Activity and Apoptosis Induction by Gaillardin

Maryam Hamzeloo Moghadam^a, Farzaneh Naghibi^b, Azadeh Atoofi^b,
Mitra Asgharian Rezaie^c, Mahboobeh Irani^b, and Mahmoud Mosaddegh^{b,*}

^a Department of Traditional Pharmacy, School of Traditional Medicine,
Shahid Beheshti University of Medical Sciences, Tehran, Iran

^b Traditional Medicine and Materia Medica Research Center,
Shahid Beheshti University of Medical Sciences, No. 8 Shams Alley,
Vali-e-Asr Street, 1516745811, Tehran, Iran. Fax: +98 21-8877-6027.
E-mail: mmosaddegh@itmrc.org

^c School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran

* Author for correspondence and reprint requests

Z. Naturforsch. **68c**, 108–112 (2013); received February 18, 2012/February 23, 2013

Cytotoxic activity of gaillardin, a sesquiterpene lactone isolated from *Inula oculus-christi* L. (Asteraceae), was assessed in the human breast adenocarcinoma cell line MCF-7, human hepatocellular carcinoma cell line HepG-2, human non-small cell lung carcinoma cell line A-549, and human colon adenocarcinoma cell line HT-29, resulting in IC_{50} values of 6.37, 6.20, 4.76, and 1.81 μ g/mL, respectively, in the microculture tetrazolium-formazan MTT assay. *In vitro* apoptosis-inducing properties of gaillardin were also evaluated in MCF-7 cells with the terminal deoxynucleotidyl transferase-mediated deoxyuridine triphosphate nick-end labeling (TUNEL) assay. The results suggest gaillardin as a candidate for further studies in cancer therapy

Key words: Gaillardin, TUNEL, MTT Assay