PO-19

doi: 10.14232/tnpr.2019.po19

Isolation and pharmacological investigation of compounds from *Euphorbia matabelensis*

Reham Hammadi[1,*], Norbert Kúsz[1], Peter Waweru Mwangi[2], Ágnes Kulmány[3], István Zupkó[3], Péter Orvos[4,5], László Tálosi[1], Judit Hohmann[1,6] and Andrea Vasas[1]

[1] *Department of Pharmacognosy, Interdisciplinary Excellence Centre, University of Szeged, Szeged, Hungary.*
[2] *School of Biological Sciences, University of Nairobi, Nairobi, Kenya.*
[3] *Department of Pharmacodynamics and Biopharmacy, University of Szeged, Szeged, Hungary.*
[4] *Department of Ophthalmology, University of Szeged, Szeged, Hungary.*
[5] *Department of Pharmacology and Pharmacotherapy, University of Szeged, Szeged, Hungary.*
[6] *Interdisciplinary Centre of Natural Products, University of Szeged, Szeged, Hungary.*

*E-mail: reham.hammadi@pharmacognosy.hu

Members of the genus *Euphorbia* (family Euphorbiaceae) are characterized by the production of irritating milky latex [1]. Diterpene-containing plants of this genus are of considerable interest for natural product drug discovery programs because of the wide range of potentially valuable biological activities and broad structural diversity due to the different polycyclic and macrocyclic skeletons and various aliphatic and aromatic ester groups [2]. However, other compounds, e.g. triterpenes, steroids, and flavonoids can also contribute to their diverse pharmacological activities [3].

The present work deals with the isolation and phytochemical and pharmacological investigations of compounds of *Euphorbia matabelensis*. After multiple separation process, including TLC, vacuum liquid chromatography, preparative TLC, and HPLC, one diterpene (ingenol) and two flavonoids (naringenin and eriodictyol) were obtained from the methanol extracts prepared from the stems and roots of the plant. The structures of the isolated compounds were determined by 1D and 2D NMR (^{1}H-^{1}H COSY, HSQC, and HMBC) and MS measurements, and comparing them with literature data. All compounds were isolated for the first time from the plant. The compounds were tested for their antiproliferative (on HeLa, C33a, MCF-7, and MDA-MB-231 cell lines) and GIRK channel blocking activities. Marginal pharmacological activities were found for all compounds in both test systems.

Acknowledgements
Support from the EFOP 3.6.3-VEKOP-16-2017-00009 is gratefully acknowledged.

References

[1] Scholz A. Euphorbiaceae. In: *Syllabus der Planzenfamilien*. Vol. 2, Engler A. (Ed). Gebrüder Bornträger, Nikolassee, Berlin, 1964; 255-261.
[2] Vasas A, Hohmann J. *Chem Rev*. 2014; 114:8579-8612.
[3] Shi QW, Su XH, Kiyota H. *Chem Rev*. 2008; 108:4295-4327.