

4th Symposium of Young Researchers on Pharmacognosy

BOOK OF ABSTRACTS

(ed. Judit Hohmann)

Institute of Pharmacognosy, University of Szeged, Szeged, Hungary

22–24 May 2023

Venue:

Szeged Regional Committee of Hungarian Academy of Sciences
H-6720 Szeged, Somogyi u. 7, Szeged



<https://us06web.zoom.us/j/89528815637?pwd=dHk1ODcyaXFicWpRK0xnZXk1QU9tQT09>

Meeting ID: 895 2881 5637, Passcode: 227572

doi: 10.14232/syrmpnpr.2023.af

University of Szeged, Faculty of Pharmacy, Institute of Pharmacognosy
Szeged, 2023

Investigation of antimicrobial and antitumor properties of selected Euphorbiaceae species

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Plants of Euphorbiaceae has been traditionally used for medicinal purposes in many regions. The present study deals with thirty-two fractions prepared from 8 selected medicinal plants belonging to different genera of Euphorbiaceae based on their traditional medicinal information. The fractions were subjected to biological screening, including antimicrobial and anticancer assay. The antimicrobial activities were evaluated using standard disc diffusion method against thirteen bacteria (Gram-positive, Gram-negative) and four fungal strains, while the anticancer activity was tested on human colon adenocarcinoma cells by MTT assay. Chloroform and ethyl acetate fractions of *Shirakiopsis indica* demonstrated the highest antimicrobial activity against *Candida glabrata* ATCC 2001. The most sensitive strains were *Candida parapsilosis* and *C. glabrata*; at least one fraction of all species showed any activity against these fungi. Among the fractions, *n*-hexane and chloroform fractions of *Euphorbia atoto* exhibited strong antiproliferative activity against Colo 205 cell line with IC₅₀ 0.24±0.06 µg/mL, and 0.23±0.04 µg/mL, respectively. Meanwhile, *Mallotus rufidulus* chloroform fraction showed the best activity against Colo 302 cell line (IC₅₀ 7.10±0.60 µg/mL).

Euphorbia atoto was investigated for bioactive metabolites, and five compounds were isolated using various chromatographic techniques. Structure elucidation was performed by NMR and mass spectroscopic analysis.

Acknowledgements

This research was supported by the National Research, Development and Innovation Fund (NKFI), Hungary (grant number K135845), and by the Ministry of Innovation and Technology of Hungary (grant number TKP2021-EGA-32).