

Abstract

Maslinic Acid Nanoemulsion: In Vitro and In Ovo Assessment [†]

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- [†] Presented at the International Conference on Interdisciplinary Approaches and Emerging Trends in Pharmaceutical Doctoral Research: Innovation and Integration, Timișoara, Romania, 7–9 July 2025.

Keywords: maslinic acid; melanoma cell lines; chorioallantoic membrane; angiogenesis

Nowadays, natural products are highly investigated in cancer research due to their wide distribution, numerous beneficial effects, and minimal side effects. Maslinic acid (MA) is found in different plant sources, but is mainly obtained from the olive tree [1]. This pentacyclic triterpene has an anti-tumor effect in various types of cancer, namely, colon cancer, gastric cancer, lung cancer, renal carcinoma, ovarian cancer, breast cancer, myeloma, pancreatic cancer, skin cancer, and leukemia, among others. It has reduced bioavailability due to its low solubility in aqueous solutions [2]; thus, to improve it, various formulations can be prepared. The purpose of the present study was to investigate the in vitro and in ovo effects of a maslinic acid nanoemulsion (MA-NE). The MA-NE was tested on two melanoma cell lines, A375 and SK-MEL-28, and on the chorioallantoic membrane, CAM. The sample produced a dose-dependent decrease in the human melanoma cell lines. In the tumor angiogenesis model, the formulation decreased cell migration. The results obtained indicate that MA-NE has an anti-melanoma effect and reduces tumor development within the tumor angiogenesis model. Further studies will be performed to elucidate the underlying mechanism of action.

Author Contributions: Conceptualization, I.Z.M.-P. and Ș.A.; methodology, I.Z.M.-P., E.-A.M., L.B., D.M., L.V. and Ș.A.; validation, I.Z.M.-P., Ș.A., C.A.D. and C.D.; investigation, I.Z.M.-P., D.U., E.-A.M., L.B., D.M., L.V. and Ș.A.; data curation, D.U., E.-A.M. and L.B.; writing—original draft preparation, I.Z.M.-P.; writing—review and editing, Ș.A. and C.D.; supervision, C.D. and C.A.D.; project administration, I.Z.M.-P.; funding acquisition, I.Z.M.-P. and C.A.D. All authors have read and agreed to the published version of the manuscript.

Funding: This work was supported by a grant of the Romanian Ministry of Education and Research, CNCS-UEFISCDI, Project number PN-III-P1-1.1-PD-2019-1231, within PNCDI III, PD 206/2020. Project Director Ioana Zinuca Magyari-Pavel.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.



Academic Editor: Codruța Șoica

Published: 18 September 2025

Citation: Magyari-Pavel, I.Z.; Ungureanu, D.; Avram, Ș.; Moacă, E.-A.; Bora, L.; Minda, D.; Vlaia, L.; Dehelean, C.A.; Danciu, C. Maslinic Acid Nanoemulsion: In Vitro and In Ovo Assessment. *Proceedings* **2025**, *127*, 5. <https://doi.org/10.3390/proceedings2025127005>

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Data Availability Statement: Data are contained within the abstract.

Conflicts of Interest: The authors declare no conflict of interest.

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