

GALINA I. SOLYANIK



R.E. Kavetsky Institute of experimental pathology,
oncology & radiobiology,
National Academy of Sciences, Kyiv, Ukraine
Vasilkovskaya str. 45, of.85
Kyiv, 03022, Ukraine
Phone: (+38044) 2579416
E-mail: gsolyanik@gmail.com

Profiles

<https://scholar.google.com/citations?user=QZUmKmkAAAAJ&hl=ru>
<https://www.scopus.com/authid/detail.uri?authorId=6603886773>
<https://orcid.org/0000-0002-8657-1263>

Education and Degrees

Professor, Oncology (R.E. Kavetsky Institute of experimental pathology, oncology & radiobiology, National Academy of Sciences, Kyiv, Ukraine)	2013
Doctor of Sciences, Biophysics (National University, Ukraine Ministry of Sciences and Education, Kyiv, Ukraine)	2000
Ph.D., Biophysics (Moscow Institute of Physics and Technology, Moscow, Russia)	1980
M.Sc., Combined studies in Science: Mathematics, Physics & Biology (Moscow Institute of Physics and Technology, Moscow, Russia)	1975

Career History

R.E. Kavetsky Institute of experimental pathology, oncology & radiobiology,
National Academy of Sciences, Kyiv, Ukraine

Chief scientist , Department of metastasis pathophysiology	2025
Head , Laboratory of molecular and cellular mechanisms of metastasis	2016-2024
Head , Department of experimental cancer therapeutics	2010-2016
Head , Department of antitumor resistance	2000–2010
Senior Researcher , Department of cancer chemotherapy	1987-2000

Teaching activities:

Progression of malignant neoplasms: molecular and cellular mechanisms , PhD, specialty 091 "Biology", 3rd year of postgraduate study, lectures, seminars	2018-present
Biophysics of malignant neoplasms , Bachelor, specialty 091 "Biology", 4th year, lectures, seminars	2011-2012

Research interests:

Tumor progression, metastasis, tumor angiogenesis, cancer chemotherapy, tumor drug resistance modeling and computer simulations as an approach of search and analysis of general regularities in growth and progression.

Selected Publications

- G.I. Solyanik, D.L. Kolesnik, I.V. Prokhorova, O.V. Yurchenko, O.N. Pyaskovskaya. Mitochondrial dysfunction significantly contributes to the sensitivity of tumor cells to anoikis and their metastatic potential. *Heliyon*. 2024, Vol. 10, Issue 12; e32626. doi.org/10.1016/j.heliyon.2024.e32626.
- Olena Petrivna Gnatyuk, Denys Leonidovych Kolesnyk, Taras Voitsitskyi, Sergiy Olexandrovych Karakhim, Andrii Nikolenko, Andrej S. Dementjev, Galina Ivanivna Solyanik, Galina Ivanivna Dovbeshko. Vibrational markers of circulating metastatic cells LLC-R9. *Spectroscopy Journal*. 2024, 2, 306–321. <https://doi.org/10.3390/spectroscj2040018>.
- Yu. Stepanov *, D. Kolesnik, Yu. Yakshibaeva, G. Solyanik. Effect of adhesive LLC cell pretreatment by oxamate on the survival indexes to transition to de-adhesive growth. doi.org //10.15407/exp-oncology.2024.03.237.
- Solomia Hnatiuk, Denys Kolesnyk, Galina Solyanik; Biochemical features of glycolysis in cancer cells with different metastatic potential. *Low Temp. Phys.* 1 March 2024; 50 (3): 285–288. doi.org/10.1063/10.00249749.
- Y. Stepanov, I. Golovynska, G. Ostrovska, L. Pylyp, T. Dovbynchuk, L. Stepanova, O. Gorbach, V. Shablii, Hao Xu, L. Garmanchuk, T. Ohulchanskyy, Junle Qu, G. Solyanik. Human mesenchymal stem cells increase LLC metastasis and stimulate or decelerate tumor development depending on injection method and cell amount. *Cytometry*, 2024, v. 105,(4), pp. 252-265. doi.org/10.1002/cyto.a.24814
- Pyaskovskaya ON, Kolesnik DL, Yanish Yu, Garmanchouk LV, Solyanik GI. Role of tumor/endothelial interactions in tumor growth and metastasis. *Exp Oncol* 2021 43, N2, 104-110. DOI: 10.32471/Exp.Oncol.2312-8852.vol-43-no-2.16157
- Solyanik G.I., Zulphigarov O.S., Prokhorova I.V., Pyaskovskaya O.M., Kolesnik D.L., Aamanyuk V.P. A Comparative Study on Pharmacokinetics of Tricin, a Flavone from Gramineous Plants with Antiviral Activity. *J Nat Med*, 2021, 9, 76-91. DOI: 10.4236/jbm.2021.92008.
- Kolesnik D.L., Pyaskovskaya O.N., Gnatyuk O.P., Cherepanov V.V., Karakhim S.O., Polovii I.O., Posudievsky O.Yu, Konoshchuk N.V., Strelchuk V.V., Nikolenko A.S., Dovbeshko G.I., Solyanik G.I.. The effect of 2D tungsten disulfide nanoparticles on survival and structural features of Lewis lung carcinoma cells in vitro. *RSC Adv.*, 2021, 11, pp. 16142–16150. DOI: 10.1039/d1ra01469b.
- Kolesnik D.L., Pyaskovskaya O.N., Gorbach O., Solyanik G.I. Metformin enhances cytotoxic action of dichloroacetate against Lewis lung carcinoma cells in vitro. *Exp Oncol* 2020 42 (1): 35–39. DOI: 10.32471/Exp.Oncol.2312-8852.vol-42-no-1.14318.
- Pyaskovskaya O.N., Kolesnik D.L., Prokhorova I.V., Burlaka A.P., Gorbach O.I., Solyanik G.I. Tumor microenvironment changes tumor cell sensitivity to action of energy metabolism modifiers. *Exp Oncol* 2020 42 (3): 192–196. DOI: 10.32471/exp-oncology.2312-8852.vol-42-no-3.14981.
- Prokhorova I.V., Yurchenko O.V., Pyaskovskaya O.N., Todor I.N., Solyanik G.I. Functional activity of circulating phagocytes as pretreatment marker of tumor drug resistance. *Journal Bioscience and Medicine* 2019. - Vol. 7 №7, pp.1-15. DOI:10.4236/jbm.2021.92008.
- Kolesnik D.L., Pyaskovskaya O.N., Yurchenko O.V., Solyanik G.I. Metformin enhances antitumor action of sodium dichloroacetate against glioma C6. *Exp. Oncol.* 2019. -Vol. 41 (2). - P.123-129. DOI: 10.32471/exp-oncology.2312-8852.vol-41-no-2.13064.
- Kolesnik D.L., Pyaskovskaya O.N., Yakshibaeva Yu.R., Solyanik G.I. Time-dependent cytotoxicity of dichloroacetate and metformin against Lewis lung carcinoma. *Exp. Oncol.* 2019. – Vol. 41 (1). – P.14-19. DOI 10.32471/exp-oncology.2312-8852.vol-41-no-1.12432.

- G. Solyanik, A. Shalamay, A. Fedorchuk, D. Kolesnik, V. Vedmid and O. Pyaskovskaya. Antifibrotic effect of quercetin in bleomycin-mouse model of lung fibrosis. In: Horizons in cancer research. Ed. by H.S. Watanobe. Nova Publisher Inc. NY. - 2017. – 66. - 139-172.
- O. Pyaskovskaya, A. Shalamay, N. Rodionova, Yu. Yakshibaeva, G. Gorbik and G. Solyanik. Correction of tumor-associated thrombocytopenia by quercetin. In: Horizons in cancer research. Ed. by H.S. Watanobe. Nova Publisher Inc. NY. - 2017. – 66. - 193-208.
- Pyaskovskaya O.N., Kolesnik D.L., Fedorchuk A.G., Prochorova I.V., Solyanik G.I. 2-deoxy-D-glucose enhances dichloroacetate antitumor action against Lewis lung carcinoma. *Exp Oncol* 2016. 38 . – P.176-180.
- Fedorchuk A.G., Pyaskovskaya O.N., Gorbik G.V., Prochorova I.V., Kolesnik D.L., Solyanik G.I. Effectiveness of sodium dichloroacetate against glioma C6 depends on administration schedule and dosage. *Exp Oncol* 2016. 38 . – P.80-83.
- Solyanik G.I., Pyaskovskaya O.M., Rodionova N.K. Correction of cancer-related anemia with oxyresveratrol. In: Paraneoplastic syndromes. Symptoms, diagnosis and treatment. Ed. by L.H. Winter. Nova Publisher Inc. NY. - 2014. - 163-200.
- Solyanik G., Misin V., Pyaskovskaya O.N., Banakchevich N., Ogay Yu. Correction of the cancer therapy-induced anemia by the grape polyphenol concentrate Enoant. Advanced bioactive compounds countering the effects of radiological, chemical and biological agents. Strategies to counter biological damage. Series: NATO Science for Peace and Security Series A: Chemistry and Biology. // Pierce G.N.; Mizin V.I.; Omelchenko A. (Eds.). – 2013. –pp. 34-45.
- Fedorchuk O.G., Pyaskovskaya O. M., Skivka L.M., Gorbik G.V., Trompak O.O., Solyanik G.I. Paraneoplastic syndrome in mice bearing high-angiogenic variant of Lewis lung carcinoma: relations with tumor derived VEGF. *Cytokine*, 2012.-5