

# Babayan Samvel Nelly

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## Research Institute of Biology

Ընդհանուր և մոլեկուլային գենետիկայի լաբորատորիա  
Senior researcher

## 🌐 Language skills

Հայերեն English Русский

## 📖 Publications

Article

### **DNA DAMAGE INDUCED BY ULTRASHORT PULSED ELECTRON BEAM IRRADIATION IN HUMAN CANCER AND NORMAL CELLS**

Alisa Manukyan, Nelly Babayan, Lusine Khondkaryan, Ruzanna Grigoryan, Natalya Sarkisyan, Tigran Harutyunyan, Bagrat Grigoryan, Rouben Aroutiounian

ARMENIAN MEETING Climate Changes: Adaptation Yerevan, March 2728, 2023 ABSTRACTS PAPERS BY YOUNG SCIENTISTS  
2023 11-14

Article

### **Datasets Construction and Development of QSAR Models for Predicting Micronucleus In Vitro and In Vivo Assay Outcomes**

Lusine Khondkaryan, Ani Tevosyan, Hayk Navasardyan, Hrant Khachatryan, Gohar Tadevosyan, Lilit Apresyan, Gayane Chilingaryan, Zaven Navoyan, Helga Stopper, Nelly Babayan  
Toxics 2023 785

Article

### **Screening of phytochemicals, toxicities, and activities of three Dillenia species**

Pornnarong Siripiyasing, Kittiya Silawong, Tikumporn Thooptianrat, Runglawan Sudmoon, Nelly Babayan, Lusine Khondkaryan, Lilit Apresyan, Tawatchai Tanee, Arunrat Chaveerach  
Journal of Herbmed Pharmacology 2022 339-347

Article

### **Incidence and Risk Factors of Acute Leukemias in Armenia: A Population-Based Study**

Lusine Khondkaryan, Diana Andreasyan, Yervand Hakobyan, Ezgi Eylül Bankoglu, Rouben Aroutiounian, Helga Stopper, Nelly Babayan  
Asian Pacific journal of cancer prevention 2022 3869-3875

Article

### **Improving VAE based molecular representations for compound property prediction**

Ani Tevosyan, Lusine Khondkaryan, Hrant Khachatryan, Gohar Tadevosyan, Lilit Apresyan, Nelly Babayan, Helga Stopper, Zaven Navoyan  
Journal of Cheminformatics 2022 69

Article

**Increased Yield of Residual  $\gamma$ H2AX Foci in p53-Deficient Human Lung Carcinoma Cells Exposed to Subpicosecond Beams of Accelerated Electrons**

N. Yu. Vorobyeva, N. S. Babayan, B. A. Grigoryan, A. A. Sargsyan, L. G. Khondkaryan, L. S. Apresyan, A. K. Chigasova, E. I. Yashkina, D. V. Guryev, S. M. Rodneva, A. A. Tsishnatti, Yu. A. Fedotov, R. M. Arutyunyan, A. N. Osipov

БЮЛЛЕТЕНЬ ЭКСПЕРИМЕНТАЛЬНОЙ БИОЛОГИИ И МЕДИЦИНЫ (BULLETIN OF EXPERIMENTAL BIOLOGY AND MEDICINE)  
2022 760-763

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*Article*

**Helix pomatia albumen gland water soluble protein extract as powerful antiaging agent**

Nelly Babayan, Gohar Tsakanova, Violetta Ayvazyan, Elina Arakelova, Anna Ayvazyan, Stepan Tatikyan, Laura Djavadovna, Ruzanna Grigoryan, Natalya Sargsyan, ArsenArakelyan  
Experimental Gerontology 2021 111244

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*Article*

**КОЛОНИЕОБРАЗУЮЩАЯ СПОСОБНОСТЬ И ОСТАТОЧНЫЕ ФОКУСЫ БЕЛКОВ РЕПАРАЦИИ ДНК В ФИБРОБЛАСТАХ ЛЁГКИХ ЧЕЛОВЕКА, ОБЛУЧЁННЫХ СУБПИКОСЕКУНДНЫМИ ПУЧКАМИ УСКОРЕННЫХ ЭЛЕКТРОНОВ**

Н.С.Бабаян, Д.В.Гурьев, Н.Ю.Воробьева, Б.А.Григорян, Г.Л.Тадевосян, Л.С.Апресян, А.К.Чигасова, Е.И.Яшкина, С.М.Роднева, А.А.Цишнатти, Ю.А.Федотов, Н.К.Саркисян, А.Т.Манукян, Р.М.Арутюнян, А.Н.Осипов

БЮЛЛЕТЕНЬ ЭКСПЕРИМЕНТАЛЬНОЙ БИОЛОГИИ И МЕДИЦИНЫ (BULLETIN OF EXPERIMENTAL BIOLOGY AND MEDICINE)  
2021 30-33

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*Article*

**Low Repair Capacity of DNA Double-Strand Breaks Induced by Laser-Driven Ultrashort Electron Beams in Cancer Cells**

Nelly Babayan, Natalia Vorobyeva, Bagrat Grigoryan, Anna Grekhova, Margarita Pustovalova, Sofya Rodneva, Yuriy Fedotov, Gohar Tsakanova, Rouben Aroutiounian, Andreyan Osipov  
International Journal of Molecular Sciences 2020 9488

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*Article*

**Genotoxic potential of selected medicinal plant extracts in human whole blood cultures**

Babayan Nelly, Harutyunyan Karina, Balayan Karine, Tadevosyan Gohar, Hayrapetyan Manush, Musayelyan Ruzanna, Grigoryan Ruzanna, Sarkisyan Natalya, Khondkaryan Lusine  
Journal of Herbmед Pharmacology 2019 160-162

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*Article*

**Ochratoxin A induces global DNA hypomethylation and oxidative stress in neuronal cells in vitro**

Nelly Babayan, Gohar Tadevosyan, Lusine Khondkaryan, Ruzanna Grigoryan, Natalya Sarkisyan, Rouben Haroutiounian, Helga Stopper  
MYCOTOXIN RESEARCH 2019 1-9

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*Article*

**Laser Driven Ultrashort Pulsed Electron Beam Radiation at Doses of 0.5 and 1.0 Gy Induces Apoptosis in Human Fibroblasts**

Nelly Babayan, Bagrat Grigoryan, Lusine Khondkaryan, Gohar Tadevosyan, Natalya Sarkisyan, Ruzanna Grigoryan, Lilit Apresyan, Rouben Aroutiounian, Natalia Vorobyeva, Margarita Pustovalova, Anna Grekhova, Andreyan N. Osipov  
International Journal of Molecular Sciences 2019 5140

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*Article*

**Радиозащитный эффект креатина при повреждении ДНК мононуклеарных клеток периферической крови и адаптационные возможности креатин-креатинкиназной системы мозга и печени крыс**

Нерсесова Л.С., Петросян М.С., Бабаян Н.С., Тадевосян Г.Л., Хондкарян Л.Г., Акопян Ж.И.

Radiation and Risk (Радиация и риск) 2019 119-131

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*Article*

**Gender differences in DNA damage/repair after laser-generated ultrafast electron beam irradiation**

Babayan N, Grigoryan B, Hovhannisyan G, Tadevosyan G, Khondkaryan L, Grigoryan R, Sarkisyan N,

Aroutiounian R

International Journal of Radiology & Radiation Therapy 2018 85-86

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*Article*

**Screening of phytochemicals and toxicity of medicinal plants, Dillenia species, reveals potential natural product resources**

Tikumporn Thooptianrat, Arunrat Chaveerach, Runglawan Sudmoon, Tawatchai Tanee, Thomas Liehr,

Nelli Babayan

Journal of Food Biochemistry 2017 e12363, 9

<http://onlinelibrary.wiley.com/doi/10.1111/jfbc.2017.41.issue-3/issuetoc>

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*Article*

**Dose-rate effect of ultrashort electron beam radiation on DNA damage and repair in vitro**

Nelly Babayan, Galina Hovhannisyan, Bagrat Grigoryan, Ruzanna Grigoryan, Natalia Sarkisyan,

Gohar Tsakanova, Samvel Haroutiounian, Rouben Aroutiounian

Journal of Radiation Research 2017 894–897

<https://academic.oup.com/jrr>

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**Comparative analysis of individual chromosome involvement in micronuclei induced by mitomycin C and bleomycin in human leukocytes.**

Hovhannisyan G, Aroutiounian R, Babayan N, Harutyunyan T, Liehr T

Molecular Cytogenetics 2016 7

<https://molecularcytogenetics.biomedcentral.com/>

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*Article*

**AREAL low energy electron beam applications in life and materials sciences.**

V.M. Tsakanov, R.M.Aroutiounian, G.A.Amatuni, L.R.Aloyan, L.G.Aslanyan, V.Sh. Avagyan, N.S.Babayan,

V.V.Buniatyan, Y.B.Dalyan, H.D.Davtyan, M.V. Derdzyan, B.A.Grigoryan, N.E.Grigoryan, L.S.Hakobyan,

S.G.Haroutyounian, V.V. Harutiunyan, K.L.Hovhannesyan, V.G.Khachatryan, N.W.Martirosyan,

G.S. Melikyan, A.G.Petrosyan, V.H.Petrosyan, A.A.Sahakyan, V.V.Sahakyan, A.A.Sargsyan, A.S.Simonyan,

S.Sh.Tatikyan, G.V.Tsakanova, E.Tsovyan, A.S.Vardanyan, V.V.Vardanyan, A.S.Yeremyan, H.N.Yeritsyan,

G.S.Zanyan

*Article*

**Synthesis, characterization and toxicity studies of pyridinecarboxaldehydes and L-tryptophan derived Schiff bases and corresponding copper (II) complexes**

Malakyan M, Babayan N, Grigoryan R, Sarkisyan N, Tonoyan V, Tadevosyan D, Matosyan V,

Aroutiounian R, Arakelyan A

F1000Research 2016 1921

<https://f1000research.com/>

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*Article*

**Cell viability and DNA damage in MRC5 and HeLa cell lines after histone H1 knockout by CRISPR-Cas9 genome editing technology**

Hovhannisyan G, Aroutiounian R, Harutyunyan T, Babayan N

Proceedings of the YSU B: Chemical and Biological Sciences 2016 64-66

<http://www.yasu.am/science/hy/journals>

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**Influence of aflatoxin B1 on copy number variants in human leukocytes in vitro.**

Harutyunyan T, Hovhannisyan G, Babayan N, Othman MA, Liehr T, Aroutiounian R

Molecular Cytogenetics 2015 25; 5

<https://molecularcytogenetics.biomedcentral.com/>

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*Conference*

**PROTECTIVE EFFECTS OF SCHIFF BASE CYCLIC AMINO ACID DERIVATIVES AGAINST MYCOTOXINS GENO- AND CYTOTOXICITY**

Tigran HARUTYUNYAN, Galina HOVHANNISYAN, Nelli BABAYAN, Thomas LIEHR, Arsen ARAKELYAN,

Rouben AROUTIOUNIAN, Margarita MALAKYAN

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*Conference*

**New doxorubicin nanosize composites' anticancer activity in vitro and in vivo**

Babayan N, Apresyan L, Harutyunyan T, Grigoryan S, Arakelova E

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*Conference*

**Photodynamic activity and structure/activity relationship of new porphyrins in vitro as potential photosensitizers for application in photodynamic therapy of cancer**

Angela A. Sargsyan, Sona V. Galstyan, Elen A. Hakobyan, Diana H. Vardanyan, Areg Galstyan,

Lusine H. Khondkaryan, Nelli S. Babayan

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*Conference*

**Genetic effects: DNA radiation damage and repair**

R. Aroutiounian, G. Hovhannisyan, B. Grigoryan, G. Tsakanova, S. Haroutiunian, T. Harutyunyan,

N. Babayan

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*Conference*

**Neurotoxicity and epigenetic effects of ochratoxin a in vitro**

Nelly Babayan, Gohar Tadevosyan, Lusine Khondkaryan, Ruzanna Grigoryan, Natalya Sarkisyan, Rouben Aroutiounian, Helga Stopper

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*Conference*

**The genotoxic and cytotoxic effects of ochratoxin a and t-2 toxin in rats bone marrow and blood cells**

Harutyunyan Tigran, Hovhannisyan Galina, Babayan Nelli, Arakelyan Arsen, Aroutiounian Rouben

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*Conference*

**Оценка повреждений и репарации ДНК при облучении сверхкороткими импульсами ускоренных электронов.**

Арутюнян Р.М., Оганесян Г.Г., Григорян Б.А., Цаканова Г.В., Арутюнян С.Г., Арутюнян Т.А.,

Бабаян Н.С.

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*Conference*

**Кинетика репарации ДНК и эпигенетические изменения при облучении сверхкороткими импульсами ускоренных электронов**

Арутюнян Р.М., Оганесян Г.Г., Григорян Б.А., Арутюнян Т.А., Бабаян Н.С.

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*Conference*

**DNA double-strand break repair efficiency in cancer cells exposed to laser-driven ultrashort electron beams**

Andreyan Osipov, Nelly Babayan, Natalia Vorobyeva, Bagrat Grigoryan, Anna Chigasova-Grekhova,

Margarita Pustovalova, Sofya Rodneva, Yuriy Fedotov, Gohar Tsakanova, Rouben Aroutiounian

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*Conference*

**Biomedical applications of ultrafast beams: status and plans**

Tsakanova G, Karalyan Z, Babayan N, Arakelova E, Ayvazyan V, Ayvazyan A, Tatikyan S, Grigoryan B

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*Conference*

**Neuronal cell lines as a model to investigate ochratoxin a neurotoxicity**

Babayan N, Grigoryan R, Sarkisyan N, Malakyan M, Stopper H, Aroutiounian R

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*Conference*

**Genetic effects of ultrashort pulsed electron beam irradiation - 7 years of joint experience**

Rouben Aroutiounian, Tigran Harutyunyan, Andrian Osipov, Natalya Vorobyeva, Galina Hovhannisyan,

Anzhela Sargsyan, Bagrat Grigoryan, Samvel Haroutiounian, Thomas Liehr, Nelly Babayan

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*Conference*

**Differences in DNA Damage and Repair in Human Cancer and Normal Cells after Ultrashort Pulsed Electron Beam Irradiation**

Nelly Babayan

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