

Mikayel Martik Ginovyan

✉ mikayel.ginovyan@ysu.am



Research Institute of Biology

Basic and Pathological Biochemistry Laboratory

Senior researcher

Education

Institution	Yerevan State University
Faculty	Faculty of biology
Date	2013 - 2016
Degree name	PhD student

Institution	Yerevan State University
Faculty	Faculty of biology
Date	2011 - 2013
Degree name	Masters

Institution	Yerevan State University
Faculty	Faculty of biology
Date	2005 - 2009
Degree name	Bachelor

Scientific Rank/degree

Institution	Yerevan State University
Date	2018
Degree name	Candidate
Specialty	Biological sciences
Scientific Supervisor	Professor Armen Trchounian
Research Topic	Biochemical characteristics of some herbs from Armenian flora

Language skills

English Русский

Work experience

Institution	Laboratory of Basic and Pathological Biochemistry, Research Institute of Biology, Yerevan State University
Period of time	2025 till now

Rank/degree Senior Researcher

Institution Laboratory of Basic and Pathological Biochemistry, Research Institute of Biology,
Yerevan State University

Period of time 2019 - 2024

Rank/degree Researcher

Institution Laboratory of Basic and Pathological Biochemistry, Research Institute of Biology,
Yerevan State University

Period of time 2016 - 2019

Rank/degree Junior Researcher

Participation in international conferences and seminars

09/07/2022 - 14/07/2022 The Biochemistry Global Summit (the 25th IUBMB, 46th FEBS and 15th PABMB Congresses), Lisbon, Portugal
Portugal

18/06/2023 - 21/06/2023 ISBT Congress 2023 (33rd Regional ISBT Congress), Gothenburg, Sweden
Sweden

08/07/2023 - 12/07/2023 The 47th FEBS Congress, Tours, France
France

20/03/2024 - 21/03/2024 COST EURESTOP GENERAL MEETING, Rome, Italy
Italy

23/06/2024 - 27/06/2024 ISBT 38th Congress, Barcelona, Spain
Spain

29/06/2024 - 03/07/2024 FEBS 48th Congress, Milan, Italy
Italy

04/07/2024 COST Action CA21145 EURESTOP WG meeting, Brussels, Belgium
Belgium

Membership

Institution COST Action CA21145, European Network for diagnosis and treatment of antibiotic-resistant bacterial infections (EURESTOP) - Management committee member

Period of time 2023 till now

Institution International Society of Blood Transfusion (ISBT)

Period of time	2023 till now
Institution	COST Action CA16112 (NutRedOx) MC Observer from COST Near neighbour Countries
Period of time	2019 - 2021
Institution	The American Society for Microbiology (ASM)
Period of time	2015 till now
Institution	Federation of European Biochemical Societies (FEBS)
Period of time	2013 till now

Publications

Article

Characterization and antibacterial/cytotoxic activity of silver nanoparticles synthesized from *Dicranum scoparium* moss extracts growing in Armenia

Gayane Semerjyan, Inesa Semerjyan, Mikayel Ginovyan, Nikolay Avtandilyan

AIMS Biophysics 2025 29–42

Article

Adapting the Cohn 6th cold ethanol fractionation method for small plasma pools: An innovative platform for developing hyperimmunoglobulin products against antibiotic-resistant infections in resource-limited settings

Mikayel Ginovyan, Gayane Kirakosyan

Transfusion and Apheresis Science 2025 104093

Article

Ribes nigrum leaf extract downregulates pro-inflammatory gene expression and regulates redox balance in microglial cells

Alvard Minasyan, Vivien Pires, Catherine Gondcaille, Mikayel Ginovyan, Marika Mróz, Stéphane Savary, Mustapha Cherkaoui-Malki, Barbara Kuszniereicz, Agnieszka Bartoszek, Pierre Andreoletti,

Naira Sahakyan

BMC Complementary Medicine and Therapies 2025 1-17

Article

The potential of blackcurrant, fig, and grape leaf extracts in the development of new preparations for overcoming antibiotic resistance and enhancing the efficacy of chemotherapeutic agents

Mikayel Ginovyan, Silvard Tadevosyan, Anahit Shirvanyan, Anush Babayan, Barbara Kuszniereicz, Izabela Koss-Mikołajczyk, Marika Mróz, Agnieszka Bartoszek, Naira Sahakyan

BMC Complementary Medicine and Therapies 2025 1-54

Article

A novel approach for synthesizing silver nanoparticles with antibacterial and cytotoxic activities using the leaf extract of hydroponically grown *Moringa oleifera*

Anush Aghajanyan, Marina Timotina, Tatevik Manutsyan, Ani Harutyunyan, Mikayel Ginovyan,

Article

Elucidating the impact of Hypericum alpestre extract and L-NAME on the PI3K/Akt signaling pathway in A549 lung adenocarcinoma and MDA-MB-231 triple-negative breast cancer cells

Hayarpi Javrushyan, Mikayel Ginovyan, Tigran Harutyunyan, Smbat Gevorgyan, Zaruhi Karabekian, Alina Maloyan, Nikolay Avtandilyan

PLOS ONE 2025 e0303736

Article

Hypericum alpestre extract exhibits in vitro and in vivo anticancer properties by regulating the cellular antioxidant system and metabolic pathway of L-arginine

Mikayel Ginovyan, Hayarpi Javrushyan, Hasmik Karapetyan, Izabela Koss-Mikołajczyk,

Barbara Kusznierevicz, Anna Grigoryan, Alina Maloyan, Agnieszka Bartoszek, Nikolay Avtandilyan

Cell Biochemistry and Function 2024 1-21

Article

5-fluorouracil and Rumex obtusifolius extract combination trigger A549 cancer cell apoptosis: uncovering PI3K/Akt inhibition by in vitro and in silico approaches

Mikayel Ginovyan, Hayarpi Javrushyan, Svetlana Hovhannisyanyan, Edita Nadiryan, Gohar Sevoyan,

Tigran Harutyunyan, Smbat Gevorgyan, Zaruhi Karabekian, Alina Maloyan, Nikolay Avtandilyan

Scientific Reports 2024 1-16

Article

Royal Jelly-Mediated Silver Nanoparticles Show Promising Anticancer Effect on HeLa and A549 Cells Through Modulation of the VEGFa/PI3K/Akt/MMP-2 Pathway

Meri Kocharyan, Syuzan Marutyan, Edita Nadiryan, Mikayel Ginovyan, Hayarpi Javrushyan,

Seda Marutyan, Nikolay Avtandilyan

Applied Organometallic Chemistry 2024 1-11

Article

Anti-cancer effect of in vivo inhibition of nitric oxide synthase in a rat model of breast cancer

Nikolay Avtandilyan, Hayarpi Javrushyan, Mikayel Ginovyan, Anna Karapetyan, Armen Trchounian

Molecular and Cellular Biochemistry 2023 261-275

Article

Anti-cancer effect of Rumex obtusifolius in combination with arginase/nitric oxide synthase inhibitors via downregulation of oxidative stress, inflammation, and polyamine synthesis

Mikayel Ginovyan, Hayarpi Javrushyan, Gayane Petrosyan, Barbara Kusznierevicz,

Izabela Koss-Mikołajczyk, Zuzanna Koziara, Monika Kuczyńska, Patrycja Jakubek, Anna Karapetyan,

Naira Sahakyan, Alina Maloyan, Agnieszka Bartoszek, Nikolay Avtandilyan

International Journal of Biochemistry & Cell Biology 2023 106396

Article

Screening revealed the strong cytotoxic activity of Alchemilla smirnovii and Hypericum alpestre ethanol extracts on different cancer cell lines

Mikayel Ginovyan, Svetlana Hovhannisyanyan, Hayarpi Javrushyan, Gohar Sevoyan, Zaruhi Karabekyan,

Narine Zakaryan, Naira Sahakyan, Nikolay Avtandilyan

Article

The Action Mechanisms, Anti-Cancer and Antibiotic-Modulation Potential of Vaccinium myrtillus L. Extract

Mikayel Ginovyan, Anush Babayan, Anahit Shirvanyan, Alvard Minasyan, Meri Qocharyan,

Barbara Kusznierevicz, Izabela Koss-Mikołajczyk, Nikolay Avtandilyan, Anne Vejux, Agnieszka Bartoszek,

Naira Sahakyan

Discovery Medicine 2023 590-611

Article

The possible anti-inflammatory properties of hydro-ethanolic extract of Oregano

Armenuhi Moghrovyan, Mikayel Ginovyan, Nikolay Avtandilyan, Lilya Parseghyan, Armen Voskanyan,

Naira Sahakyan, Anna Darbinyan

Functional Foods in Health and Disease 2023 476-486

Article

THE CYTOTOXIC PROPERTIES OF ALCHEMILLA SMIRNOVII EXTRACT ON THE HELA CANCER CELLS VIA DOWNREGULATION OF ARGINASE ACTIVITY

S.M. Hovhannisyan, E.E. Nadiryan, M.V. Qocharyan, G.H. Petrosyan, G.P. Sevoyan, Z.I. Karabekyan,

H.G. Javrushyan, M.M. Ginovyan, N.V. Avtandilyan

ԵՊՀ գիտական տեղեկագիր. Քիմիա և կենսաբանություն: 2023 238-247

Article

REGULATORY EFFECTS OF RUMEX OBTUSIFOLIUS AND HYPERICUM ALPESTRE EXTRACTS ON THE QUANTITY OF IL-2 IN IN VITRO AND IN VIVO CANCER MODELS

E.E. Nadiryan, S.M. Hovhannisyan, M. V. Qocharyan, G.H. Petrosyan, H.G. Javrushyan, M.M. Ginovyan,

N.V. Avtandilyan

ԵՊՀ գիտական տեղեկագիր. Քիմիա և կենսաբանություն: 2023 248-257

Article

Hypericum alpestre extract affects the activity of the key antioxidant enzymes in microglial BV 2 cellular models

Mikayel Ginovyan, Pierre Andreoletti, Mustapha Cherkaoui-Malki, Naira Sahakyan

AIMS Biophysics 2022 161-171

Article

Ribes nigrum L. Extract-Mediated Green Synthesis and Antibacterial Action Mechanisms of Silver Nanoparticles

Zaruhi Hovhannisyan, Marina Timotina, Jemma Manoyan, Lilit Gabrielyan, Margarit Petrosyan,

Barbara Kusznierevicz, Agnieszka Bartoszek, Claus Jacob, Mikayel Ginovyan, Karen Trchounian,

Naira Sahakyan, Muhammad Jawad Nasim

Antibiotics 2022 1-17

Article

Growth inhibition of cultured cancer cells by Ribes nigrum leaf extract

Mikayel Ginovyan, Agnieszka Bartoszek, Izabela Koss-Mikołajczyk, Barbara Kusznierevicz,

Pierre Andreoletti, Mustapha Cherkaoui-Malki, Naira Sahakyan

AIMS Biophysics 2022 282-293

Article

EVALUATION OF THE ANTIOXIDANT ACTIVITY AND THE ANTI-CANCER PROPERTIES

OF FALCHEMA M. SMIRNOVII JUZ. EXTRACT ON THE HELA CANCER CELL LINE

S. Hovhannisyan, E. NADIRYAN, M. QOCHARYAN, G. SEVOYAN, M. GINOVYAN, N. AVTANDILYAN

СТУДЕНЧЕСКАЯ ГОДИЧНАЯ НАУЧНАЯ КОНФЕРЕНЦИЯ ЯРОССИЙСКО-АРМЯНСКИЙ УНИВЕРСИТЕТА 2022

40-46

Article

Antioxidant potential, biochemical activity and hypoglycemic effects of R. obtusifolius L. seed extracts used in Armenian traditional medicine

Mikayel Ginovyan, Naira Sahakyan, Anush Aghajanyan, Armen Trchounian

BIO Web of Conferences 2021 1-6

Article

NEW THERAPEUTIC APPROACHES IN BREAST ANTICANCER TREATMENT USING ARMENIAN HERBAL EXTRACTS

H.G. JAVRUSHYAN, N.V. AVTANDILYAN, M.M. GINOVYAN, A.H. TRCHOUNIAN

Biological Journal of Armenia 2021 32-38

Article

ANTIOXIDANT POTENTIAL OF SOME HERBS REPRESENTED IN ARMENIAN FLORA AND CHARACTERIZATION OF PHYTOCHEMICALS

M. M. Ginovyan, N. Zh. Sahakyan, M.T. Petrosyan, A. H. Trchounian

Proceedings of the YSU B: Chemical and Biological Sciences 2021 25-38

Article

Phytochemical Screening and Detection of Antibacterial Components from Crude Extracts of Some Armenian Herbs Using TLC-Bioautographic Technique

Ginovyan Mikayel, Ayvazyan Arpine, Nikoyan Armine, Tumanyan Lilit, Trchounian Armen

Current Microbiology 2020 1223-1232

Article

ANTIBACTERIAL AND ANTI-PHAGE ACTIVITY OF PLANTAGO MAJOR L. RAW MATERIAL

N.Zh. Sahakyan, M. M. Ginovyan, M. T. Petrosyan, A. H. Trchounian

Proceedings of the YSU B: Chemical and Biological Sciences 2019 59-64

Article

Herbs Extracts in the Treatment and Prevention of Experimental Metabolic Disorders: Synergistic Hypoglycemic Activity of Ethanol Extracts of Hypericum alpestre and Rumex obtusifolius

Anush Aghajanyan, Mikayel Ginovyan, Armen Trchounian

Proceedings MDPI 2019 1-3

Article

Novel approach to combat antibiotic resistance: evaluation of some Armenian herb crude extracts for their antibiotic modulatory and antiviral properties

M. Ginovyan, A. Trchounian

JOURNAL OF APPLIED MICROBIOLOGY 2019 472-480

Article

Novel approach to combat antibiotic resistance: Evaluation of some Armenian herb crude extracts for their antibiotic modulatory and antiviral properties

M. Ginovyan, A. Trchounian

JOURNAL OF APPLIED MICROBIOLOGY 2019 472-480

Article

Antimicrobial activity of some plant materials used in Armenian traditional medicine

Mikayel Ginovyan, Margarit Petrosyan, Armen Trchounian

BMC Complementary and Alternative Medicine 2017 1-9

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

Article

SCREENING OF SOME PLANT MATERIALS USED IN ARMENIAN TRADITIONAL MEDICINE FOR THEIR ANTIMICROBIAL ACTIVITY

M. Ginovyan, A. Trchounian

Proceedings of the YSU B: Chemical and Biological Sciences 2017 44-53

<http://www.y-su.am/science/hy/journals>

Article

Effect of heat treatment on antimicrobial activity of crude extracts of some Armenian herbs

Ginovyan M.M.

Proceedings of the YSU B: Chemical and Biological Sciences 2017 113-117

<http://www.y-su.am/science/hy/journals>

Article

Antibiotic resistance of Pseudomonas species isolated from Armenian fish farms

M. Ginovyan, V. Hovsepyan, M. Sargsyan, K. Grigoryan, A. Trchounian

Труды ВНИРО 2017 163-173

<http://www.vniro.ru/ru/periodicheskie-izdaniya/trudy-vniro/trudy-vniro-nauchnyj...>

Article

Возбудители бактериальных инфекций форели в рыбоводческих хозяйствах Беларуси и Армении.

К.М. Григорян, Г.В. Слободницкая, Е.И. Гребнева, Н.А. Бенецкая, А.В. Беспалый, Е.В. Максимьюк, С.М. Дегтярик, В.В. Овсепян, М.П. Саргсян, М. Гиновян, Р.Л. Асадчая

ВОПРОСЫ РЫБНОГО ХОЗЯЙСТВА БЕЛАРУСИ 2016 262-274

Article

The large scale antibacterial, antifungal anti-phage efficiency of Petamcin-A: new multicomponent preparation for skin diseases treatment

Mikayel Ginovyan, Andranik Keryan, Inga Bazukyan, Petros Ghazaryan, Armen Trchounian

Annals of Clinical Microbiology and Antimicrobials 2012 2-7

<https://ann-clinmicrob.biomedcentral.com/>

Conference

Antibacterial, Antifungal and Anti-Phage Activity of Di

M. Ginovyan, M. Petrosyan, A. Trchounian

Conference

Antimicrobial activity of some plant materials used in Armenian folk medicine

M. Ginovyan, M. Petrosyan, A. Trchounian

Conference

A Novel Anti-bacterial, Anti-fungal, and Anti-phage Preparation for the Treatment of Skin Infections

M. Ginovyan, S. Daghbashyan, P. Ghazaryan, A. Trchounian

Conference

The large scale antimicrobial efficiency of a new multicomponent preparation for skin diseases treatment

M. Ginovyan, P. Ghazaryan, I. Bazukyan, A. Trchounian

Conference

Antibiotic modulatory effect of the methanolic extracts from Armenian herbs against several gram-negative and gram-positive bacteria

Ginovyan M., Petrosyan M., Trchounian A.

Conference

Gc-MsA nalysis of Bio-ActiveC ompoundsfr om Methanol Extractso f R. ObtusifoliusLa.n d A. EupatoridL . Possessnig Anti m icrobial Activity

M. Ginovyan, M. Petrosyan, N. Sahakyan, A. Trchounian

Conference

Antibacterial and Anti-phage Activity of Raw Material Plantago major L., a Medicinal plant Grown in Armenia

A. Trchounian, N. Sahakyan, M. Ginovyan, M. Petrosyan

Conference

THE NATURE OF COMPOUNDS RESPONSIBLE FOR ANTIRADICAL ACTIVITY OF METHANOL AND ACETONE EXTRACTS OF SOME ARMENIAN HERBS

A.AYVAZYAN, M.GINOVYAN, A.NIKOYAN, A.TRCHOUNIAN

Conference

RUMEX OBTUSIFOLIUS AND HIPERICUM ALPESTRE HERBS AS SOURCES FOR NEW ANTIOXIDANT COMPOUNDS

Sahakyan N, Ginovyan M., Andreoletti P., Cherkaoui-Malki M., Petrosyan M., Trchounian A.

Conference

ANTIMICROBIAL, ANTIOXIDANT AND ANTI-HYPERGLYCEMIC ACTIVITY OF SOME PLANTS FROM ARMENIAN FLORA AND GROWING IN HYDROPONIC CONDITIONS: MODERN STUDIES AND FURTHER APPLICATIONS

Sahakyan N., Ginovyan M., Aghajanyan A., Petrosyan M., Trchounian A.

Conference

Nature of active phytochemicals of crude extracts of some herbs from Armenian flora responsible for their antimicrobial activity

Ginovyan M., Ayvazyan A., Nikoyan A., Trchounian A.

Conference

Antioxidant properties of some herbal extracts from Armenian flora, evaluation of their

cytotoxicity and genotoxicity on HT29 cell line

Mikayel Ginovyan, Zuzanna Koziara, Monika Baranowska, Klaudia Suliborska, Patrycja Jakubek, Barbara Kuszniereicz, Nikolay Avtandilyan, Naira Sahakyan, Agnieszka Bartoszek

*Conference***High antioxidant and cytotoxic activity of Rumex obtusifolius seed extract and metabolomic characterization of its bioactive phytochemicals.**

M. Ginovyan, Z. Koziara, M. Baranowska, I. Koss-Mikolajczyk, K. Suliborska, P. Jakubek, B. Kuszniereicz, N. Avtandilyan, N. Sahakyan, A. Bartoszek

*Conference***Antimicrobial and antioxidant potential of some plant crude extract**

Margarit Petrosyan, Alvard Minasyan, Anahit Shirvanyan, Anush Babayan, Mikayel Ginovyan, Naira Sahakyan

*Conference***Hypericum alpestre combined with arginase and NOS inhibitors shows antiproliferative activity in the rat breast cancer model**

H.Javrushyan, N.Avtandilyan, S.Hovhannsiyan, M.Qocharyan, M.Ginovyan, A.Maloyan

*Conference***Anti-inflammatory and immunostimulatory effect of Hypericum alpestre combined with arginase and NOS inhibitors in the rat breast cancer model**

H.Javrushyan, E.Nadiryanyan, G.Petrosyan, M.Ginovyan, A.Maloyan, N.Avtandilyan

*Conference***New therapeutic approach in breast anti-cancer treatment using a combination of Rumex obtusifolius extract and L-arginine pathway inhibitors**

N. Avtandilyan, H. Javrushyan, A. Karapetyan, M. Ginovyan

*Conference***Evaluation of immunostimulatory effect of combination of herbal extracts and chemotherapeutic drugs by quantitative alteration of interleukin-2**

H. Javrushyan, G. Sevoyan, M. Ginovyan, Z. Karabekian, N. Avtandilyan

*Conference***Occurrence of potential pathogenic Pseudomonas spp. in trout farms of Armenia**

Grigoryan K., Sargsyan M., Hovsepyan V., Badalyan G., Ginovyan M.

*Conference***The combination of herbs and chemotherapeutic agents inhibits tumor progression via down-regulation of the TNF α -VEGF α /PI3K/Akt/NOS/COX-2-MMP-2 pathway in DMBA-induced breast cancer in rats**

N. Avtandilyan, M. Kocharyan, S. Hovhannisiyan, S. Gevorgyan, H. Javrushyan, M. Ginovyan, A. Maloyan

*Conference***From metabolomics to medicine: exploiting the functional potential of plant extracts in human health, with emphasis on Ribes nigrum, Ficus carica and Vitis vinifera**

S. Tadevosyan, M. Ginovyan, N. Avtandilyan, A. Shirvanyan, A. Bartoszek, N. Sahakyan

Conference

From agro-bio-waste to application: the power of bilberry aerial part extract as anti-cancer and antibiotic-modulating agent

N. Sahakyan, M. Ginovyan, A. Babayan, A. Shirvanyan, A. Minasyan, B. Kusznierevich,
I. Koss-Mikołajczyk, N. Avtandilyan, A. Bartoszek

Conference

Harnessing plant extracts to overcome antibiotic resistance: leaf extracts of *Ribes nigrum*, *Ficus carica*, and *Vitis vinifera* as resistance modifiers of *E. coli* strains

M. Ginovyan, A. Shirvanyan, S. Tadevosyan, A. Babayan, B. Kusznierevich, N. Avtandilyan, A. Bartoszek,
N. Sahakyan

Conference

The cytotoxicity and antibacterial activity of *Moringa oleifera*-mediated silver nanoparticles

M. Timotina, T. Manutsyan, M. Ginovyan, K. Trchounian, L. Gabrielyan, A. Aghajanyan

Conference

ANTI-CANCER PROPERTIES AND POTENTIAL MOLECULAR MECHANISMS OF COMBINATIONS OF HERBAL EXTRACTS AND CHEMOTHERAPEUTIC AGENTS

N. Avtandilyan, H. Javrushyan, H. Karapetyan, A. Grigoryan, E. Nadiryan, G. Sevoyan, M. Ginovyan,
A. Maloyan

Conference

Investigating the anticancer advantages of pairing *Rumex obtusifolius* herb extract with 5-fluorouracil against breast cancer in vivo

S. Hovhannisyanyan, M. Ginovyan, N. Avtandilyan

Conference

Cytotoxic and prooxidant properties of ethanolic extract from *Hypericum alpestre* and metabolomic profiling of its bioactive phytochemicals

M. Ginovyan, I. Koss-Mikołajczyk, B. Kusznierevich, N. Avtandilyan, A. Bartoszek

Conference

Modulating antibiotic efficacy: the role of *Teucrium polium* in disrupting bacterial resistance mechanisms

Silvard Tadevosyan, Anush Babayan, Mikayel Ginovyan, Naira Sahakyan

Conference

Emodin inhibits HIF-1 α expression in MDA-MB- 231 cells via suppression of the PI3K/Akt/mTOR pathway

S. Hovhannisyanyan, M. Ginovyan, N. Avtandilyan

Conference

***Hypericum alpestre* Extract and L-NAME Suppress PI3K/Akt Pathway and Enhance Apoptosis in Lung and Breast Cancer Cells**

Svetlana Hovhannisyanyan, Gayane Petrosyan, Hayarpi Javrushyan, Mikayel Ginovyan, Nikolay Avtandilyan
