Shiva Akbari Birgani

Associate Professor

IASBS, Department of Biological Sciences

Publications

Journals

- Seyed Ali Karimifard, Ali Salehzadeh-Yazdi, Reza Taghizadeh-Tabarsi, Shiva Akbari-Birgani, "Mechanical effects modulate drug resistance in MCF-7-derived organoids: Insights into the wnt/β-catenin pathway", Biochemical and Biophysical Research Communications, 2024, doi: https://doi.org/10.1016/j.bbrc.2023.149420

- Sevda Zaki-Germi, Reza Taghizadeh-Tabarsi, Shiva Akbari-Birgani, Hamideh Aghahosseini, Nasser Nikfarjam, "Propolis polyphenol nanosheet for synergistic cancer chemo-photothermal therapy", Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2024, doi: 10.1016/j.colsurfa.2024.134262

- Farzaneh Falahi, Shiva Akbari-Birgani, Yousef Mortazavi & Behrooz Johari , "Caspase-9 suppresses metastatic behavior of MDA-MB-231 cells in an adaptive organoid model", Scientific Reports , 2024, doi: 10.1038/s41598-024-65711-z

- Hakim, Fatemeh and Kazemiraad, Cyrus and Akbari-Birgani, Shiva and Abdollahpour, Daryoush and Mohammadi, Saeed, "Caspase-9-mediated cleavage of vimentin attenuates the aggressiveness of leukemic NB4 cells", Molecular and cellular biochemistry, Vol. 13, NO. 2, 2023

- Sadeghi, Moslem and Falahi, Farzaneh and Akbari-Birgani,

Shiva and Nikfarjam, Nasser, "Trilayer Tubular Scaffold to Mimic Ductal Carcinoma Breast Cancer for the Study of Chemo-Photothermal Therapy", ACS Applied Polymer Materials, Vol. 13, NO. 2, 2023

- Saghatchi, Fatemeh and Akbari-Birgani, Shiva and Kaboudin, Babak, "Synthesis of magnetic carbon nanotubes functionalized with pyridine groups-supported gold nanoparticles and their application in Imaging", ACS Applied Polymer Materials, Vol. 13, NO. 2, 2023

- F Khatami, A Baharian, S Akbari-Birgani, N Nikfarjam, "Tubular scaffold made by gelatin/polylactic acid nanofibers for breast ductal carcinoma in situ tumor modeling", Journal of Drug Delivery Science and Technology, 2023, doi: https://doi.org/10.1016/j.jddst.2023.104606

- Soheila Mohammadi, Shiva Akbari-Birgani, Nasser Nikfarjam, Mahsa Rasekhian, "Polyethyleneimine-decorated graphene oxide quantum dot as a carrier for suicide gene delivery to the breast cancer three-dimensional model", Journal of Drug Delivery Science and Technology, 2023, doi: https://doi.org/10.1016/j.jddst.2023.104849

- Neshat, Abdollah and Akbari-Birgani, Shiva and Cheraghi, Mahdi and Gilanchi, Shirin and Yousefshahi, Mohammad Reza, "A novel heteroleptic N-heterocyclic carbene gold (I)-borate complex: Synthesis, DFT analysis and cytotoxicity studies", Inorganica Chimica Acta, Vol. 539, NO. 5, 2022

- Sefidgar, E and Akbari-Birgani, SH, "The comparative study of growth and drug response of MCF-7 and MDA-MB231 human breast cancer cells in two-and three-dimensional culture", Cell and Tissue Journal, Vol. 13, NO. 2, 2022

- Zahra Madadi, Shiva Akbari-Birgani1*, Saead Mohammadi*, Mitra Khademy, Seyed Asadollah Mousavi, "The Effect of Caspase-9 in the Differentiation of SH-SY5Y Cells", European Journal of Pharmacology, Vol. 904, NO. 174138, 4, 2021, doi:

10.1016/j.ejphar.2021.174138

- Atefeh Safaei-Yaraziz, Shiva Akbari-Birgani and Nasser Nikfarjam*, "Porous scaffolds with the structure of an interpenetrating polymer network made by gelatin methacrylated nanoparticle-stabilized high internal phase emulsion polymerization targeted for tissue engineering", RSC Advances, 06, 2021, doi: DOI https://doi.org/10.1039/D1RA03333F

- Davoodi-Monfared, Parviz and Akbari-Birgani, Shiva and Mohammadi, Saeed and Kazemi, Foad and Nikfarjam, Nasser and Nikbakht, Mohsen and Mousavi, Seyed Asadollah, "Synthesis, characterization, and in vitro evaluation of the starch-based α-amylase responsive hydrogels", Journal of Cellular Physiology, Vol. 236, NO. 5, 2021

- Fatemeh Saghatchi1 & Masoud Mohseni-Dargah2 & Shiva Akbari-Birgani2,3 & Samaneh Saghatchi4 & Babak Kaboudin1,3, "Cancer Therapy and Imaging Through Functionalized Carbon Nanotubes Decorated with Magnetite and Gold Nanoparticles as a Multimodal Tool", Applied Biochemistry & Biotechnology, 02, 2020, doi: 10.1007/s12010-020-03280-3

- Hosein Kafian, Meelad Lalenejad, Sahar Moradi-Mehr, Shiva Akbari Birgani, Daryoush Abdollahpour, "Light-Sheet Fluorescence Microscopy with Scanning Non-diffracting Beams", Scientific Reports, Vol. 10, 05, 2020, doi: 10.1038/s41598-020-63847-2

- Parviz Davoodi-Monfared, Shiva Akbari-Birgani, Saeed Mohammadi, Foad Kazemi, Nasser Nikfarjam, Mohsen Nikbakht, Seyed Asadollah Mousavi, "Synthesis, characterization, and in vitro evaluation of the starch-based α-amylase responsive hydrogels", J Cell Physiol. , 10, 2020, doi: 10.1002/jcp.30148

- Shiva Akbari-Birgania,b,*, Mitra Khademya, Masoud Mohseni Dargaha, Zahra Madadia, Roya Mokhtar Ahmadabadia, Parviz Davoodi Monfareda. , "Caspases interplay with kinases and

phosphatases to determine cell fate. ", European Journal of Pharmacology, 1, 2019, doi: 10.1016/j.ejphar.2019.04.048

- Mohammadi S, Akbari-Birgani S, Borji M, Kaboudin B, Vaezi M., "Diethyl [(3-phenoxy-2-oxo-4-phenyl-azetidin-1-yl)-phenyl-methyl]-phosphonate as a potent anticancer agent in chemo-differentiation therapy of acute promyelocytic leukemia.", European Journal of Pharmacology, 2019, doi: 10.1016/j.ejphar.2019.01.003

- Madadi, Z., Akbari-Birgani, S*., Davoodi-Monfared, P., Mohammadi, S., "The non-apoptotic role of caspase-9 promotes differentiation in leukemic cells.", Biochim Biophys Acta Mol Cell Res, 08, 2019, doi: 10.1016/j.bbamcr.2019.118524

- Mohammadi, Saeed and Akbari-Birgani, Shiva and Borji, Meysam and Kaboudin, Babak and Vaezi, Mohammad, "Diethyl [(3-phenoxy-2-oxo-4-phenyl-azetidin-1-yl)-phenyl-methyl]-phosphonate as a potent anticancer agent in chemo-differentiation therapy of acute promyelocytic leukemia", European Journal of Pharmacology, Vol. 846, NO. 4, 2019

- Mohseni-Dargah, Masoud and Akbari-Birgani, Shiva and Madadi, Zahra and Saghatchi, Fatemeh and Kaboudin, Babak, "Carbon nanotube-delivered iC9 suicide gene therapy for killing breast cancer cells in vitro", Nanomedicine, Vol. 14, NO. 8, 2019

- Akbari-Birgani, Shiva and Khademy, Mitra and Mohseni-Dargah, Masoud and Madadi, Zahra and Mokhtar-Ahmadabadi, Roya and Davoodi-Monfared, Parviz, "Caspases interplay with kinases and phosphatases to determine cell fate", European Journal of Pharmacology, Vol. 855, NO. 8, 2019

- Madadi, Zahra and Akbari-Birgani, Shiva and Monfared, Parviz Davoodi and Mohammadi, Saeed, "The non-apoptotic role of caspase-9 promotes differentiation in leukemic cells", Biochimica et Biophysica Acta (BBA)-Molecular Cell Research, Vol. 1866, NO. 12, 2019

- Mokhtar-Ahmadabadi R, Madadi Z, Akbari-Birgani S, Grillon C, Hasani L, Hosseinkhani S, Zareian S., "Developing a circularly permuted variant of Renilla luciferase as a bioluminescent sensor for measuring Caspase-9 activity in the cell-free and cell-based systems.", Biochemical and Biophysical Research Communications, 2018, doi: 10.1016/j.bbrc.2018.11.009.

- Kaboudin, Babak and Saghatchi, Fatemeh and Kazemi, Foad and Akbari-Birgani, Shiva, "A novel magnetic carbon nanotubes functionalized with pyridine groups: Synthesis, characterization and their application as an efficient carrier for plasmid DNA and aptamer", ChemistrySelect, Vol. 3, NO. 24, 2018

- Mokhtar-Ahmadabadi, Roya and Madadi, Zahra and Akbari-Birgani, Shiva and Grillon, Catherine and Hasani, Leila and Hosseinkhani, Saman and Zareian, Shekufeh, "Developing a circularly permuted variant of Renilla luciferase as a bioluminescent sensor for measuring Caspase-9 activity in the cell-free and cell-based systems", Biochemical and biophysical research communications, Vol. 506, NO. 4, 2018

- Akbari-Birgani S, Paranjothy T, Zuse A, Janikowski T, Cieślar-Pobuda A, Likus W, Urasińska E, Schweizer F, Ghavami S, Klonisch T, Łos MJ., "Cancer stem cells, cancer-initiating cells and methods for their detection.", Drug Discov Today, 2016, doi: 10.1016/j.drudis.2016.03.004

- Mohammadi S, Ghaffari SH, Shaiegan M, Zarif MN, Nikbakht M, Akbari Birgani S, Alimoghadam K, Ghavamzadeh A., "Acquired expression of osteopontin selectively promotes enrichment of leukemia stem cells through AKT/mTOR/PTEN/β-catenin pathways in AML cells.", Life Sci., 2016, doi: 10.1016/j.lfs.2016.04.003

- Mohammadi, Saeed and Ghaffari, Seyed H and Shaiegan, Mojgan and Zarif, Mahin Nikougoftar and Nikbakht, Mohsen and Birgani, Shiva Akbari and Alimoghadam, Kamran and Ghavamzadeh, Ardeshir, "Acquired expression of osteopontin selectively promotes enrichment of leukemia stem cells

through AKT/mTOR/PTEN/β-catenin pathways in AML cells", Life sciences, Vol. 152, NO. 4, 2016

- Akbari-Birgani, Shiva and Paranjothy, Ted and Zuse, Anna and Janikowski, Tomasz and Cie{\'s}lar-Pobuda, Artur and Likus, Wirginia and Urasi{\'n}ska, El{\.z}bieta and Schweizer, Frank and Ghavami, Saeid and Klonisch, Thomas and others, "Cancer stem cells, cancer-initiating cells and methods for their detection", Drug discovery today, Vol. 21, NO. 5, 2016

- Akbari-Birgani, Shiva and Borji, Meysam and Kabudin, Babak, "Phosphorothioate derivatives; new cytotoxic and pro-apoptotic compounds", Drug discovery today, Vol. 21, NO. 5, 2016

- Akbari-Birgani S, Hosseinkhani S, Mollamohamadi S, Baharvand H., "Delay in apoptosome formation attenuates apoptosis in mouse embryonic stem cell differentiation.", J Biol Chem, 2014, doi: 10.1074/jbc.M113.536730

- Akbari-Birgani, Shiva and Hosseinkhani, Saman and Mollamohamadi, Sepideh and Baharvand, Hossein, "Delay in apoptosome formation attenuates apoptosis in mouse embryonic stem cell differentiation", Journal of Biological Chemistry, Vol. 289, NO. 24, 2014

- Akbari-Birgani, Shiva and Hosseinkhani, Saman and Mollamohamadi, Sepideh and Baharvand, Hossein, "3Department of Developmental Biology, University of Science and Culture, ACECR, Tehran, Iran.", LUMINESCENCE, Vol. 29, NO. 24, 2014

- Pormehr, Leila A and Vishkaei, Mansoureh N and Mozafarzadeh, Zahra and Birgani, Shiva A and Sariri, Reyhaneh and Gharibkhani, Mahtab and Majid, Amin MSA and Majid, Aman SA and Khadeer Ahamed, Mohamed B and Asif, Muhammad, "ISOLATION, CHARACTERIZATION OF NOVEL FRAGMENT OF A GENE KLENTAQ1 WHICH ENCODES THERMUS AQUATICUS DNA POLYMERASE AND ITS THERMOSTABILITY STUDIES IN ESCHERICHIA COLI.", Science International, Vol. 25, NO. 4, 2013

- Masoudi-Nejad, Ali and Salehzadeh-Yazdi, Ali and Akbari-Birgani, Shiva and Asgari, Yazdan, "Integration of Metabolic Knowledge for Genome-Scale Metabolic Reconstruction", Biological Knowledge Discovery Handbook, Vol. 29, NO. 24, 2013

- Birgani, Shiva Akbari and Salehi, Zivar and Houshmand, Masoud and Mohamadi, Mohamad Javad and Promehr, Leila Azizade and Mozafarzadeh, Zahra, "Novel mutations of CHST6 in Iranian patients with macular corneal dystrophy", Molecular vision, Vol. 15, 2009

- Mohseni-Dargah M, Akbari-Birgani S, Madadi Z, Saghatchi F, Kaboudin B., "Carbon nanotube-delivered iC9 suicide gene therapy for killing breast cancer cells in vitro.", Nanomedicine, , doi: 10.2217/nnm-2018-0342

Conferences

- Akbari-Birgani, Shiva and Hosseinkhani, Saman and Baharvand, Hossein, "Comparative study of apoptosome formation and ATP oscillation in apoptosis and differentiation processes using luciferase", LUMINESCENCE, 2014

- Hosseinkhani, Saman and Torkzadeh-Mahani, Masoud and Ataei, Farangis and Nikkhah, Maryam and Akbari-Birgani, Shiva, "Luciferase complementary assay implication in detection of early stages of apoptosis", LUMINESCENCE, 2014

- Akbari-Birgani, Shiva and Hosseinkhani, Saman and Baharvand, Hossein, "Energy oscillation in apoptosis and differentiation processes", 1st Tabriz International Life Science Conference and 12th Iran Biophysical Chemistry Conference, 2013

- Salehzadeh-Yazdi, Ali and Masoudi-Nejad, Ali and Saboury, Ali Akbar and Akbari-Birgani, Shiva, "Hubs and Non-hubs in Protein-Protein Interaction Networks: A Biophysical Interpretation",

2012 23rd International Workshop on Database and Expert Systems Applications, 2012