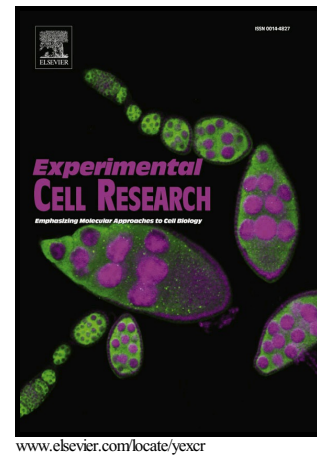


SIRT1 and microRNAs: the role in breast, lung and prostate cancers

Hedyieh Karbasforooshan, Ali Roohbakhsh,  
Gholamreza Karimi



PII: S0014-4827(18)30163-0  
DOI: <https://doi.org/10.1016/j.yexcr.2018.03.023>  
Reference: YEXCR10973

To appear in: *Experimental Cell Research*

Received date: 31 January 2018  
Revised date: 11 March 2018  
Accepted date: 17 March 2018

Cite this article as: Hedyieh Karbasforooshan, Ali Roohbakhsh and Gholamreza Karimi, SIRT1 and microRNAs: the role in breast, lung and prostate cancers, *Experimental Cell Research*, <https://doi.org/10.1016/j.yexcr.2018.03.023>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# **SIRT1 and microRNAs: the role in breast, lung and prostate cancers**

Hedyieh Karbasforooshan<sup>1</sup>, Ali Roohbakhsh<sup>2,3</sup>, Gholamreza Karimi<sup>2,3\*</sup>

<sup>1</sup>Faculty of Pharmacy, Mashhad University of Medical Sciences, Mashhad, I.R, Iran.

<sup>2</sup>Pharmaceutical Research Center, Pharmaceutical Technology Institute, Mashhad University of Medical Sciences, Mashhad, Iran.

<sup>3</sup>Department of Pharmacodynamics and Toxicology, School of pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran.

\* Corresponding Author: Gholamreza Karimi, Ph.D. Professor of pharmacology and toxicology, Mashhad, P. O. Box, 1365-91775, I.R. Iran. Phone: +98-511-882-3255. KarimiG@mums.ac.ir

## **ABSTRACT**

Breast cancer and prostate cancer are the most common malignant tumors in female and men, respectively. Furthermore, lung cancer is the leading cause of cancer deaths worldwide. It is an emergency to develop a powerful strategy to treat these threatening cancers more effectively, because of low efficacy and high rates of chemotherapy effects. MicroRNAs (miRNAs), a class of small non-coding RNAs, are key regulators of gene expression via induction of translational repression or mRNA degradation. MiRNA deregulation has been linked to cancer initiation and progression. Silent Inflammation Regulator 2 (SIR2) proteins-sirtuins- are a family of histone deacetylases (HDACs) that catalyze deacetylation of both histone and non-histone lysine residues. SIRT1 can act as an oncogene. It plays a role in tumorigenesis by anti-apoptotic activity and is implicated in diverse cellular process including autophagy, senescence, apoptosis, proliferation, and aging. MicroRNAs and SIRT1 serve as tumor suppressors or tumor promoters depending on the oncogenic pathway specific to particular tumors. MicroRNAs modulate cancer development by targeting SIRT1. In this review, we underlie the specific mechanisms involved in these threatening cancers by microRNAs/SIRT1 pathways.

Download English Version:

<https://daneshyari.com/en/article/8450717>

Download Persian Version:

<https://daneshyari.com/article/8450717>

[Daneshyari.com](https://daneshyari.com)