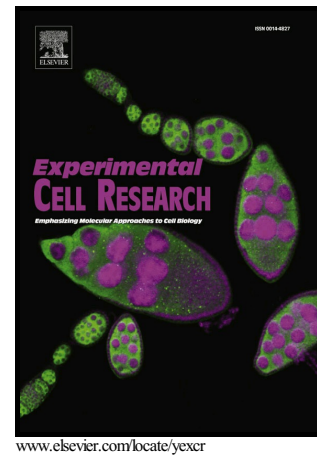


The IRF9-SIRT1-P53 Axis is Involved in the Growth of Human Acute Myeloid Leukemia

Wen-Liang Tian, Rong Guo, Fang Wang, Zhong-Xing Jiang, Ping Tang, Yu-Min Huang, Ling Sun



PII: S0014-4827(18)30120-4  
DOI: <https://doi.org/10.1016/j.yexcr.2018.02.036>  
Reference: YEXCR10949

To appear in: *Experimental Cell Research*

Received date: 25 October 2017  
Revised date: 23 February 2018  
Accepted date: 27 February 2018

Cite this article as: Wen-Liang Tian, Rong Guo, Fang Wang, Zhong-Xing Jiang, Ping Tang, Yu-Min Huang and Ling Sun, The IRF9-SIRT1-P53 Axis is Involved in the Growth of Human Acute Myeloid Leukemia, *Experimental Cell Research*, <https://doi.org/10.1016/j.yexcr.2018.02.036>

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.

**The IRF9-SIRT1-P53 Axis is Involved in the Growth of Human Acute Myeloid Leukemia**

Wen-Liang Tian, Rong Guo, Fang Wang, Zhong-Xing Jiang, Ping Tang, Yu-Min Huang, Ling Sun\*

Department of Hematology, the First Affiliated Hospital of Zhengzhou University, Zhengzhou, Henan Province 450052, China

lingsun1@21cn.com

sunling6686@126.com

\*Corresponding author: Department of Hematology, the First Affiliated Hospital of Zhengzhou University. No.1 Jianshe East Road, Zhengzhou, Henan Province 450052, China. Tel: +86-371-66295122 Fax: +86-371-66295122

**Abstract**

Acute myeloid leukemia (AML) is a highly heterogeneous disease, with biologically and prognostically different subtypes. Although a growing number of distinct AML subsets have been increasingly characterized, patient management has remained disappointingly uniform. The molecular mechanism underlying AML needs to be further investigated. Here we identify IRF9 as a negative regulator of human AML. We show that IRF9 mRNA and protein levels are down-regulated in human AML samples compared with samples from healthy donors. IRF9 knockdown promotes proliferation, colony formation and survival of OCI/AML-2 and OCI/AML-3 cells, whereas IRF9 overexpression obtains opposite results. Mechanism analysis shows that IRF9 binds SIRT1 promoter and represses SIRT1 expression in OCI/AML-2 and OCI/AML-3 cells. In AML samples, the expression of SIRT1 is up-regulated and negatively correlated with IRF9 level. IRF9 also increases the acetylation of p53, a deacetylation substrate of SIRT1, and promotes the expression of p53 target genes. Knockdown of p53 blocks the effects of IRF9 on cell survival and growth in vitro. These findings provide evidence that

Download English Version:

<https://daneshyari.com/en/article/8450924>

Download Persian Version:

<https://daneshyari.com/article/8450924>

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