Accepted Manuscript

Title: Decreased expression of microRNA-122 is associated with an unfavorable prognosis in childhood acute myeloid leukemia and function analysis indicates a therapeutic potential

Authors: Juan Yang, Yufang Yuan, Xiaochun Yang, Ze Hong, Lijuan Yang

PII: S0344-0338(17)30012-2
DOI: http://dx.doi.org/doi:10.1016/j.prp.2017.06.017
Reference: PRP 51836

To appear in:

Received date: 6-1-2017
Revised date: 15-5-2017
Accepted date: 25-6-2017

Please cite this article as: Juan Yang, Yufang Yuan, Xiaochun Yang, Ze Hong, Lijuan Yang, Decreased expression of microRNA-122 is associated with an unfavorable prognosis in childhood acute myeloid leukemia and function analysis indicates a therapeutic potential, Pathology - Research and Practicehttp://dx.doi.org/10.1016/j.prp.2017.06.017

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 proof before it is published in its final 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.

ACCEPTED MANUSCRIPT

Title: Decreased expression of microRNA-122 is associated with an unfavorable prognosis in childhood acute myeloid leukemia and function analysis indicates a therapeutic potential

Running Title: Tumor suppressive roles of miR-122 in childhood AML

Authors: Juan Yang[1], Yufang Yuan[1], Xiaochun Yang[1], Ze Hong[2], Lijuan Yang[2*]

Affiliation: 1, Department of Pediatrics, Huai'an Hospital Affiliated to Xuzhou Medical College and Huai'an Second People's Hospital, 62 Huaihai Road South, Huai'an 223002 China; 2, Department of Pediatrics, Huai'an First People's Hospital, Nanjing Medical University,6 Beijing Road West,Huai'an, Jiangsu 223300, China.

***Corresponding author:** Prof. Lijuan Yang

E-mail: yljhayy@163.com

Tel: (86)517-84952301

Fax: (86)517-84952301

[ABSTRACT]

MicroRNA (miR)-122 functions as a tumor suppressor in various human cancers. However, its involvement in childhood acute myeloid leukemia (AML) remains unknown. In this study, quantitative real-time PCR assay demonstrated that miR-122 expression in bone marrow specimens from AML children were significantly lower than that in non-malignant controls ($P<0.001$). Statistically, AML children with low miR-122 expression more frequently had large white blood cell count ($P=0.022$), French-American-British classification subtype M7 ($P<0.001$), unfavorable cytogenetics ($P=0.002$) and day 7 response to the treatment ($P=0.036$), short relapse-free ($P=0.001$) and overall ($P=0.008$) survivals than those with high expression. Multivariate analysis also determined that miR-122 expression was an independent prognostic factor for both relapse-free and overall survivals. Functionally, the enforced expression of miR-122 in AML cell lines efficiently suppressed cell proliferation and reduced the ratio of S-phase cells *in vitro* (all $P<0.05$). In conclusion, the abnormal expression of miR-122 may be a marker of the aggressive progression in childhood AML. Importantly, its downregulation may serve as a prognostic factor to predict poor outcome. Our study also reveal that miR-122 may function as a tumor suppressor in childhood AML, highlighting a new therapeutic strategy for this malignancy.

Download English Version:

https://daneshyari.com/en/article/8458561

Download Persian Version:

https://daneshyari.com/article/8458561

Daneshyari.com