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Authors: Chen Fang, Jing Zhao, Junbo Li, Jialin Qian, Xu Liu, Qifan Sun, Wenli Liu, Yanjie Tian, Anquan Ji, Huijuan Wu, Jiangwei Yan



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# Massively parallel sequencing of microRNA in bloodstains and evaluation of environmental influences on miRNA candidates using realtime polymerase chain reaction

Chen Fang <sup>a, d, 1</sup>, Jing Zhao <sup>b, c, 1</sup>, Junbo Li <sup>a, d</sup>, Jialin Qian <sup>a, d</sup>, Xu Liu <sup>a, d</sup>, Qifan Sun <sup>e</sup>, Wenli Liu <sup>a, d</sup>, Yanjie Tian <sup>a, d</sup>, Anquan Ji <sup>e</sup>, Huijuan Wu <sup>a, d, \*</sup>, Jiangwei Yan <sup>b, c, f, \*</sup>

<sup>a</sup> Beijing Center for Physical and Chemical Analysis, Beijing 100094, P. R. China

<sup>b</sup> CAS Key Laboratory of Genome Sciences and Information, Beijing Institute of Genomics, Chinese Academy of Sciences, Beijing 100010, P. R. China

<sup>c</sup> University of Chinese Academy of Sciences, Beijing 100049, P. R. China

<sup>d</sup> Beijing Engineering Technology Research Centre of Gene Sequencing and Gene Function Analysis, Beijing 100094, P. R. China

<sup>e</sup> National Engineering Laboratory for Forensic Science and MPS Key Laboratory of Forensic Genetics, Institute of Forensic Science, Ministry of Public Security, Beijing 100038, P. R. China.

<sup>f</sup> Shanxi Medical University, Taiyuan 030001, P. R. China

<sup>1</sup> These authors contributed equally to this work

\* Corresponding author:

E-mail Addresses: [yanjw@big.ac.cn](mailto:yanjw@big.ac.cn) (J-w Yan) and [sunnywhj@126.com](mailto:sunnywhj@126.com) (H-j Wu)

+86-010-84097964 and +010-58717615

## Highlights

- MiRNA profile of bloodstain was established with massively parallel sequencing
- Novel miRNAs identified in bloodstains represent candidate identification markers
- Freezing/thawing and high concentration of oxidant affect the expression of miRNA significantly
- MiRNA profiling with massively parallel sequencing would be beneficial for forensics analyses

## Abstract

MicroRNAs (miRNA) are small (22–24 nucleotides) non-coding RNAs with potential application in forensic science because of their anti-degradation property and tissue specificity. Recent studies on the use of miRNA in forensic applications have mainly focused on body fluid identification using realtime polymerase chain reaction or microarray analysis. However, the exploration of miRNA in bloodstains, which are the most valuable source of biological evidence during a case investigation, is

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