

Accepted Manuscript

Securinine disturbs redox homeostasis and elicits oxidative stress-mediated apoptosis via targeting thioredoxin reductase

Junmin Zhang, Juan Yao, Shoujiao Peng, Xinming Li, Jianguo Fang

PII: S0925-4439(16)30263-0
DOI: doi: [10.1016/j.bbadis.2016.10.019](https://doi.org/10.1016/j.bbadis.2016.10.019)
Reference: BBADIS 64585

To appear in: *BBA - Molecular Basis of Disease*

Received date: 30 June 2016
Revised date: 28 September 2016
Accepted date: 20 October 2016



Please cite this article as: Junmin Zhang, Juan Yao, Shoujiao Peng, Xinming Li, Jianguo Fang, Securinine disturbs redox homeostasis and elicits oxidative stress-mediated apoptosis via targeting thioredoxin reductase, *BBA - Molecular Basis of Disease* (2016), doi: [10.1016/j.bbadis.2016.10.019](https://doi.org/10.1016/j.bbadis.2016.10.019)

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.

Securinine disturbs redox homeostasis and elicits oxidative stress-mediated apoptosis via targeting thioredoxin reductase

Junmin Zhang ^{a, b}, Juan Yao ^a, Shoujiao Peng ^a, Xinming Li ^a and Jianguo Fang ^{a*}

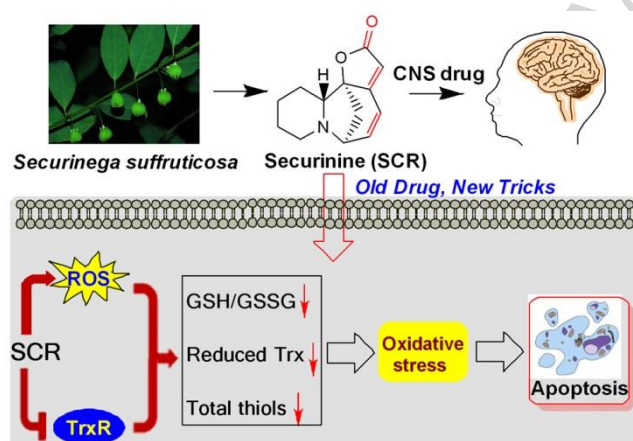
^a State Key Laboratory of Applied Organic Chemistry and College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou, Gansu 730000, China

^b School of Pharmacy, Lanzhou University, Lanzhou, Gansu 730000, China

* Corresponding author, Tel: +86 931 8912500; fax: +86 931 8915557.

E-mail: fangjg@lzu.edu.cn (J. Fang).

Graphical Abstract



Highlights

- CNS drug securinine (SCR) inhibits thioredoxin reductase (TrxR).
- Knockdown or pharmacological inhibition of TrxR enhances cytotoxicity of SCR.
- SCR promotes elevation of oxidized glutathione and thioredoxin in cells.
- SCR elicits oxidative stress-mediated apoptosis of HeLa cells.
- Targeting TrxR by SCR provides a novel mechanism for its anticancer activity.

Download English Version:

<https://daneshyari.com/en/article/5501171>

Download Persian Version:

<https://daneshyari.com/article/5501171>

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