<u>Cite this as</u>: Ke HAO, Bing-yu CHEN, Kai-qiang LI, Yu ZHANG, Cai-xia LI, Ying WANG, Lu-xi JIANG, Jiang SHEN, Xiang-chai GUO, Wei ZHANG, Meng-hua ZHU, Zhen WANG, 2017. Cytotoxicity of anti-tumor herbal *Marsdeniae tenacissimae* extract on erythrocytes. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*, 18(7):597-604. http://dx.doi.org/10.1631/jzus.B1600228

Cytotoxicity of anti-tumor herbal Marsdeniae tenacissimae extract on erythrocytes

Key words: *Marsdeniae tenacissimae* extraction, Erythrocytes, Calcium, ROS, Fragility

Research Summary

Marsdeniae tenacissimae extraction (MTE) has been used as an adjuvant medicine for cancer therapy for a long time. While this study mainly focused on the cytotoxic effect of MTE on erythrocytes.



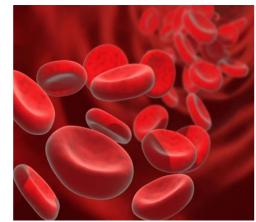


Ant-tumor effect on

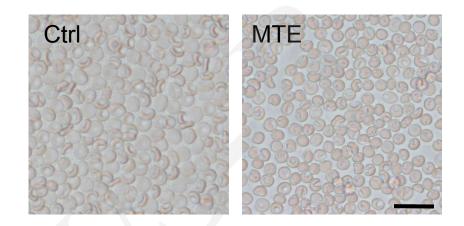
gastric cancer esophageal cancer lung cancer hepatocellular carcinoma

. . .

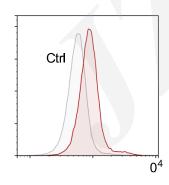
Adverse effect on Erythrocytes?

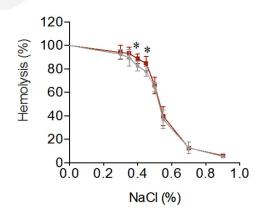


This study showed that MTE treatmen increased the fragment of erythrocytes and induced Morphologic change of erythrocytes.



MTE treatment induced calcium and ROS accumulation, consequently elevated the erythrocytes' fragility.





Innovation points

 Firstly demonstrates the MTE induces cytotoxicity and aging in erythrocytes due to the high ROS and calcium accumulation.

 This research presents the possibility of impairment on cancer patients' circulating erythrocytes when MTE is used as an anti-cancer adjuvant medicine.

