Cite this as: Run-ting HUANG, Qing HUANG, Gen-liang WU, Chun-guang CHEN, Zong-jun LI, 2017. Evaluation of the antioxidant property and effects in Caenorhabditis ele-gans of Xiangxi flavor vinegar, a Hunan local traditional vinegar. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*, 18(4):324-333. http://dx.doi.org/10.1631/jzus.B1600088

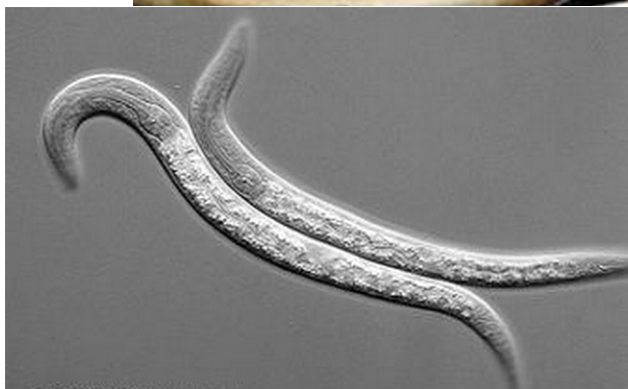
Evaluation of the Antioxidant Property and Effects in *Caenorhabditis elegans* of Xiangxi Flavor Vinegar, A Hunan Local Traditional Vinegar

Key words: Vinegar, Antioxidant, Free-radical scavenging property, *C. elegans*, ROS, Antioxidant enzyme, Apoptosis

Research Summary

The aim of this study was to evaluate the antioxidant property of Xiangxi flavor vinegar(XV) and to define the mechanism with following experiments:

- **Determination of antioxidant compounds by HPLC**
- **Free-radical scavenging in vitro**
- **Reactive oxygen species assay in *C. elegans* after XV treatment**
- **Antioxidant enzymes assay in *C. elegans* after XV treatment**
- **Determination of CED-3and CED-9 in *C. elegans***



Result and Conclusion

§ XV isrich in antioxidants and can scavenge radicals in vitro effectively(Table 1&2).

§ XV inhibit apoptosis in *C. elegans* probably by scavenging ROS and increasing the activities of antioxidant enzymes like GSH-PX, SOD, and CAT.

§ When rice vinegar and XV are compared, XV has great antioxidative capacity and a better flavor.

§ This study provides scientific evidence for the biofunction of XV.