

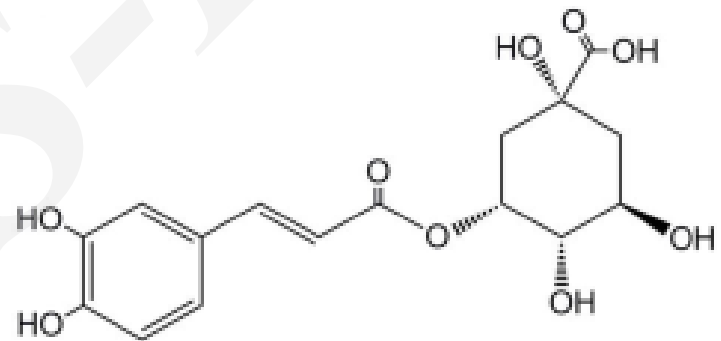
Cite this as: Chun PANG, Yu-chen SHENG, Ping JIANG, Hai WEI, Li-li JI, 2015. Chlorogenic acid prevents acetaminophen-induced liver injury: the involvement of CYP450 metabolic enzymes and some antioxidant signals. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*. **16**(7):602-610. [doi:10.1631/jzus.B1400346]

Chlorogenic acid prevents acetaminophen-induced liver injury: the involvement of CYP450 metabolic enzymes and some antioxidant signals

Key words: Chlorogenic acid, Acetaminophen, CYP450, Oxidative stress injury

Research Summary

This study observes the detoxification of chlorogenic acid (CGA) against acetaminophen-induced acute liver injury and its engaged mechanism.



Chlorogenic acid (CGA)

- Peroxiredoxin (Prx) Family
- Epoxide hydrolase 2 (Ephx2)
- Nuclear factor erythroid-2-related factor 2 (Nrf2)
- CYP2E1 and CYP1A2

Play important roles in regulating such protection

Innovation points

- **The liver injury induced by acetaminophen overdose has become the major cause of drug-induced liver injury in the United States and the United Kingdom.**
- **Polyphenolic compound chlorogenic acid (CGA) prevents acetaminophen-induced liver injury.**
- **Antioxidative signals including Prx family, Ephx2, and Nrf2 play important roles in regulating such protection**
- **CGA weakly inhibits CYP2E1 and CYP1A2 enzymatic activity *in vitro*, which contributes to the protection of CGA against acetaminophen-induced hepatotoxicity.**