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

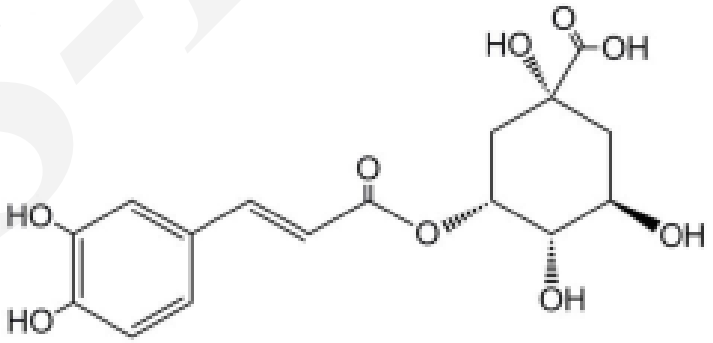
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Research Summary

This study observes the detoxification of chlorogenic acid (CGA) against acetaminophen-induced acute liver injury and it's 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.**

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