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## Suppression of the Menadione-Induced Cytotoxicity toward Hepa1c1c7 Murine Hepatoma by Quinone Reductase Inducers

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The obligatory two-electron reduction of quinones by quinone reductase (NAD(P)H:quinone oxidoreductase) competes with the one-electron reduction of quinones and protects cells against the cytotoxicity of quinones. We assessed the inhibitory effects of quercetin and curcumin against the menadione-induced cytotoxicity toward murine Hepa1c1c7 cells. tert-Butylhydroquinone, a positive control, induced the quinone reductase activity and suppressed the menadione-induced cytotoxicity. Both quercetin and curcumin induced the quinone reductase activity. While quercetin suppressed the menadione-induced cytotoxicity, curcumin showed no such suppressive effect.

**Keywords:** [quinone reductase](#), [quercetin](#), [curcumin](#), [enzyme induction](#), [detoxification](#), [cell culture](#)

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