

## [SL-1]

### Flavonoid wogonin protects ethanol-induced gastric mucosal damage by attenuating inflammatory activation of gastric mucosa

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Wogonin (5,7-dihydroxy-8-methoxyflavone), a flavonoid originated from the root of *Scutellaria baicalensis* Georgi has been shown to exert anti-inflammatory effects through either selective inhibition of cyclooxygenase-2 (COX-2) or the induction of apoptosis in several inflammation-related diseases in vitro and in vivo. Although alcohol-induced gastritis is frequently encountered clinical entity, little is known about the molecular pathogenesis and its prevention. Based on the known anti-inflammatory and apoptosis inducing activities, we investigated the effects of wogonin on the ethanol-induced gastric damages in rats. Intragastric administration of absolute ethanol (0.5 ml/100g B.W.) in the male SD rats induced significant interference of gastric mucosal homeostasis such as gastric cellular inflammations, submucosal edema, mucosal hemorrhages, and epithelial cell loss. Pretreatment of rats with wogonin (30 mg/kg, B.W.) for 1 h before the absolute ethanol administration significantly protected gastric mucosa by 66%, which was accompanied by both suppression of biosynthetic capability of 5S-hydroxyeicosaenoic acid (5S-HETE) and enhancement of prostaglandin E2 (PGE2) production coupled with the upregulation of COX-2 expression. Furthermore, wogonin induced mucin biosyntheses and apoptosis in ethanol-induced gastric cells. Taken together, flavonoid wogonin could be used as preventive agent of alcohol-induced gastropathy, of which actions were proven to be strong anti-inflammation and apoptosis induction.

Key words : Gastric Mucosal Damage, Wogonin, Ethanol, PGE2, COX, Apoptosis