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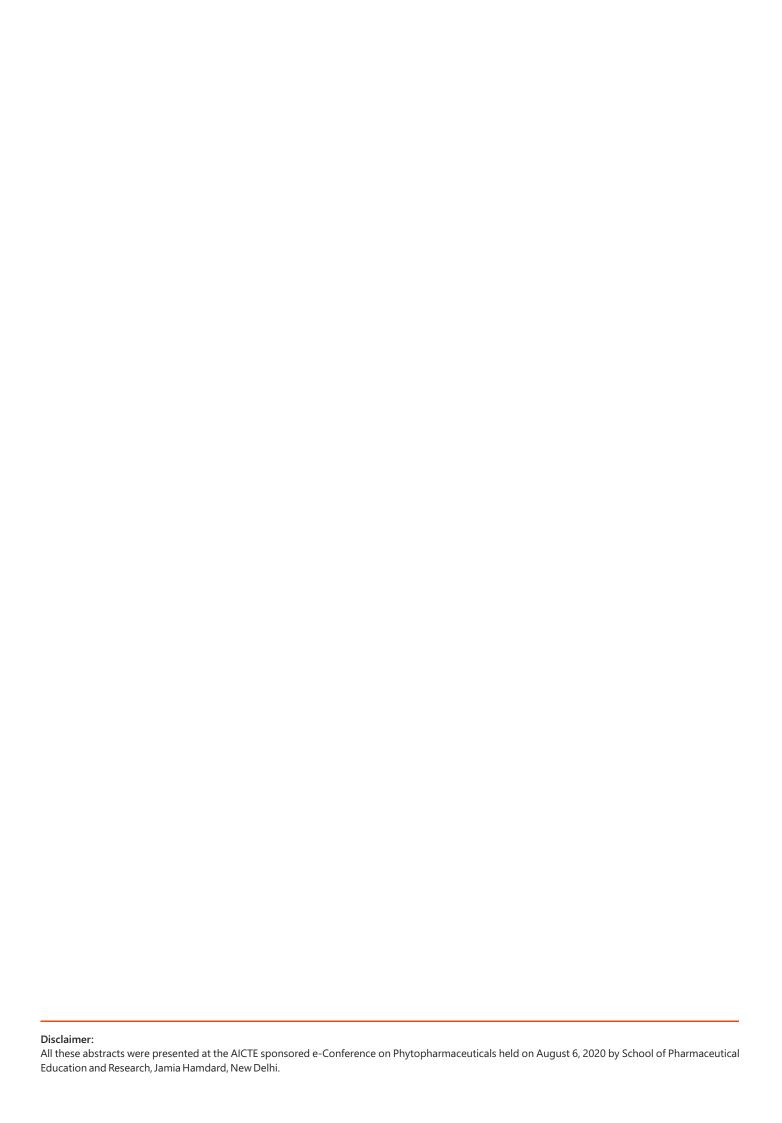
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# The Effect of Wogonin Isolated from Skullcap Flowers in Hepatitis-B Treatment

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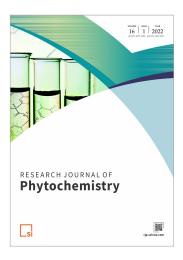
#### **ABSTRACT**

**Background:** Hepatitis B is an infectious disease caused by the hepatitis B virus (HBV) that affects the liver, it is a type of viral hepatitis. It can cause both acute and chronic infection. Many people have no symptoms during the initial infection. In acute infection, some may develop a rapid onset of sickness with vomiting, yellowish skin, tiredness, dark urine and abdominal pain. Often these symptoms last a few weeks and rarely does the initial infection result in death. About a third of the world population has been infected at one point in their lives. Over 750,000 people die of hepatitis B each year.

**Methods:** Scutellaria radix has been used for thousands of years, mainly for the treatment of inflammatory conditions including hepatitis B. The major active constituent, Wogonin (WG), isolated from S. radix has attracted increasing scientific attention in recent years due to its effective biological activities. Wogonin is a type of flavonoid, effectively inhibiting the HBV antigen secretion with an IC50 value of 4 mg/mL for both HBsAg and HBeAg and also reduced HBV DNA level in hepG2 cells. By using an HBV-producing cell line in vitro culture system, it is found that wogonin can suppress HBV surface antigen production without any trace of cytotoxicity.

**Results:** An assay of endogenous HBV DNA polymerase activity shows that both the relaxed circular and the linear forms of HBV DNA are significantly reduced in the wogonin-treated group.. DHBV DNA polymerase was clearly suppressed by wogonin with an IC50 value of 0.57 mg/mL. In ducks with DHBV infection, wogonin decreased the plasma level of DHBV DNA with a 50% effective dose (ED50) of 5 mg/kg. In human HBV-transgenic mice, wogonin significantly reduced plasma HBsAg level. Immunohistological staining of the liver confirmed the HBsAg reduction by wogonin.

**Conclusion:** The results establish that wogonin possesses potent anti-HBV activity both in vitro and in vivo. Wogonin is under primary development as an anti-HBV drug candidate at present. This paper review aims to study the efficacy of wogonin in the treatment of Hepatitis B.



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