

Evaluation of Anti-Hepatitis Effects of Ginsenosides in HBV containing HepG2 2.15 cells

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Objectives

The aim of this study is the screening of ginsenosides to find out the anti-hepatitis effects using hepatitis B virus containing HepG2 2.15 cells.

Materials and Methods

○ **Materials**

Dulbecco's modified Eagle's medium(DMEM), fetal bovine serum, penicillin-streptomycin, and related compounds to maintain cell culture were purchase from PAA (USA). Ginsenosides were purchase from AMBO(Korea). HepG2.2.15 cell was kindly gifted by professor Guhung Jung (Seoul National University).

○ **Methods**

Cell Culture

The human hepatoma cell line, HepG2.2.15, was maintained in Dulbecco's modified Eagle's medium(DMEM) with 10% fatal bovine serum and antibiotics(100U/ml each of penicillin and streptomycin) adding 200ug/ml G418 in 5% CO₂-humidified air at 37°C. The cultures were passaged by trypsinization every 3 days. Cells were plated either in 100mm culture dishes at a density of 2x10⁶ cells/dish or in 48-well plates at a density of 1x10⁵cells/well.

Determination of HBsAg and HBeAg production

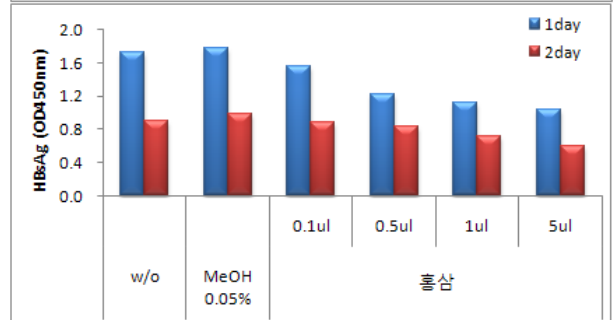
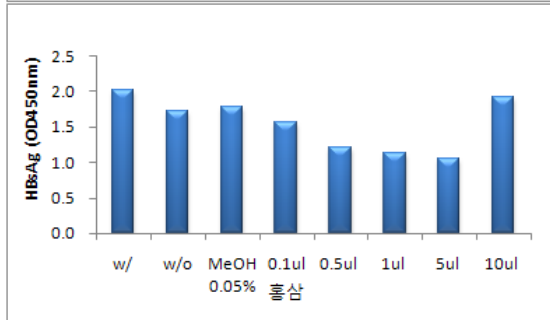
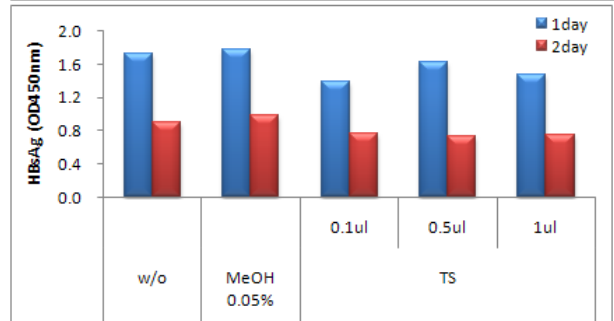
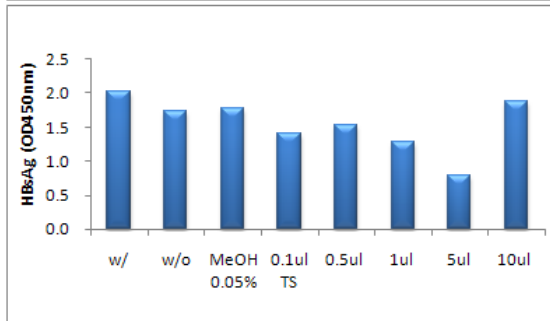
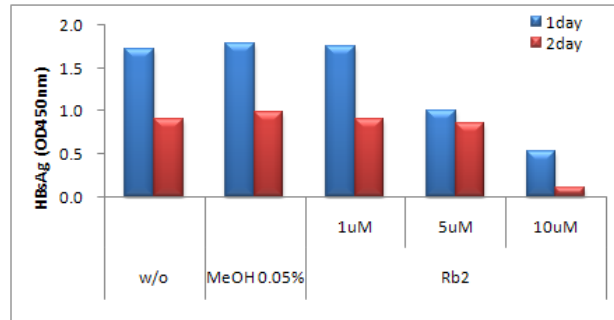
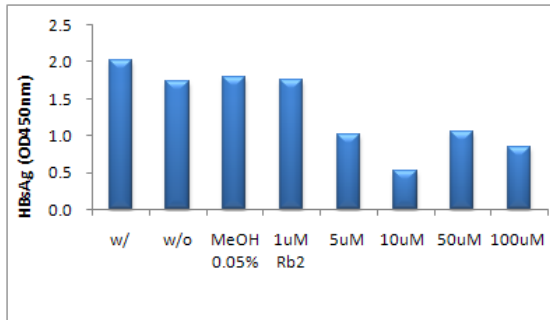
To analyze the levels of HBsAg and HBeAg in the media, HepG2 2.15 cells were plated and treated various concentration of ginsenosides, total saponin, ginseng extracts, red-ginseng extracts for 24 hrs and harvested media. The levels of HBsAg and HBeAg in the media were measured with ELISA assay kits according to manufacture's instruction manual.

Results

The eleven species of ginsenosides, total saponin, ginseng extracts, and red-ginseng extracts were analyzed with ELISA assay to verify the effects on the levels of HBsAg and HBeAg. Rb2, total saponin, and red-ginseng extracts inhibited the production of HBsAg. However, the production of HBeAg was not inhibited by treatment of ginsenosides, and other ginseng-related extracts.

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