

Bis(arylmethylidene)acetone, a curcumin-derivative for anti-cancer agent

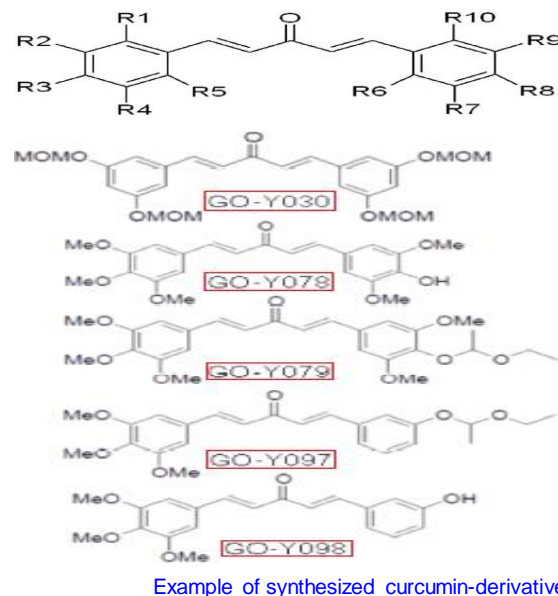
Summary

Curcumin is contained in turmeric, which is a yellow pigment used as spice. Curcumin exerts inhibitory activity in the growth of various cancer cells, including, e.g., colon cancer, breast cancer, and prostate cancer. However, curcumin has relatively weak activity in limiting cancer-cell proliferation and preventing carcinogenesis. The present invention provides orally administrable curcumin-derivative having potent inhibitory activity in the growth of colon cancer cells and various other cancer cell. These compounds have growth inhibitory activity against cancer cells, at least equal to or greater than curcumin.

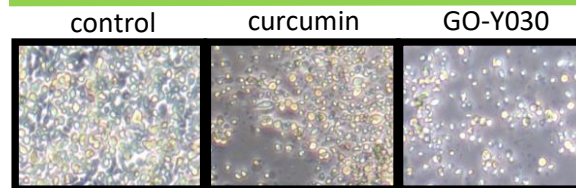
Effect & Application

86 species of curcumin-derivative was synthesized, and those cell growth inhibitory activity, apoptosis-inducing activity, and the angiogenesis inhibition activity on cancer cells was examined. The results shows that some curcumin-derivative, GO-Y016, GO-Y030, GO-Y031, GO-Y078, GO-Y079, GO-Y097, and GO-Y098 have 1.2 to 80 times higher activity than curcumin. In addition, toxicity of GO-Y30, GO-Y31, and GO-078 were evaluated using normal cell and cancer cell, no growth inhibition was observed on normal cell.

Basic Skeleton and curcumin-derivative



Apoptosis-Inducing Activity

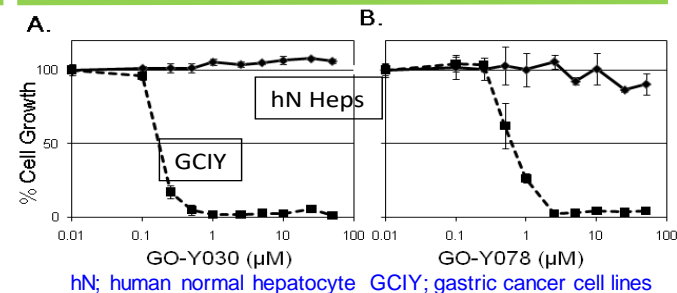


Cancer cell lines : colon cancer cell

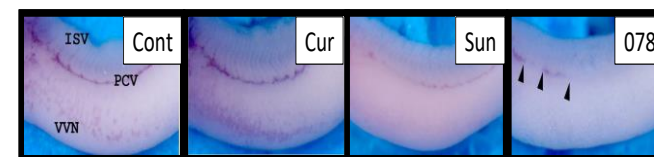
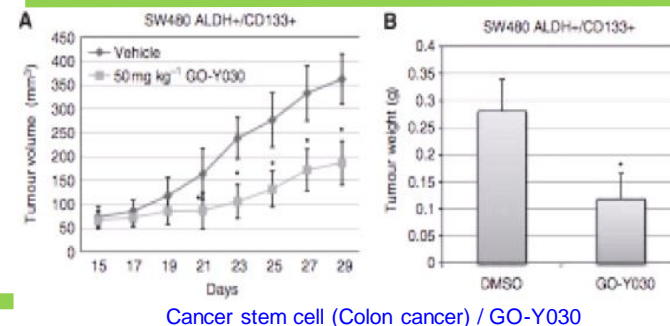
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Safety of curcumin-derivative



Anti-tumor effects of curcumin-derivatives *in vivo*



Angiogenesis inhibition (Xenopus Embryo) / GO-Y078

Patent Information

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