

## Documents

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**Formulation and antioxidant properties of curcumin gum Arabic nanoparticles for delivery to cancer cells**  
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**Abstract**

Curcumin nanoparticles (Cur/GANPs) were formulated based on gum arabic (GA) as a stabilizer coating for nanoparticles through an efficient synthesis approach. The current study investigated the antioxidant properties and antihypertensive activity of curcumin (Cur) using various established *in vitro* assays, such as 1,1-diphenyl-2-picrylhydrazyl (DPPH) (as well as angiotensin-converting enzyme (ACE) inhibitory activity. The *in vitro* cytotoxicity of Cur/GANPs against human liver cancer (HepG2), and colon cancer (HT29) was investigated. The exposure of human cancer cells to Cur/GANPs (1.56-100 µg/ml) (using MTT) 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT) has revealed that the Cur/GANPs inhibited the growth of cell lines examined in a dose-dependent manner. Hence, Cur/GANPs nanoparticles may have great potential to be applied for cancer treatment. © 2020 Institute of Physics Publishing. All rights reserved.

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