

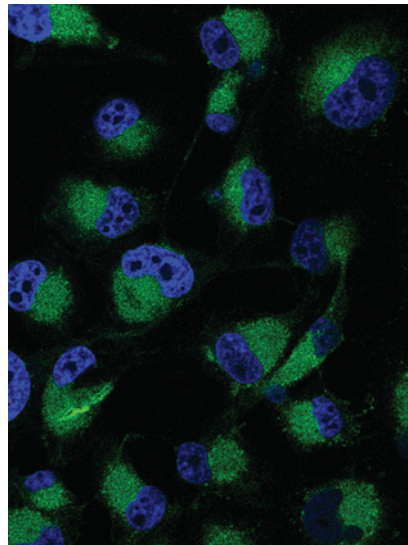
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## ABOUT THE COVER

Recent reports indicate a high correlation between fast food intake and lung cancer incidence. Benzo[a]pyrene (B[a]P) is a potent carcinogen abundantly present in grilled and deep-fried food and in tobacco smoke. Efficacy of curcumin, a known dietary chemopreventive agent, in B[a]P-induced lung carcinogenesis is well established. However, the poor pharmacokinetic profile of the compound hampers its potential for clinical use. A study by Anto and colleagues (beginning on page 225) demonstrates that encapsulation of curcumin in chitosan nanoparticles improves cell uptake and prolongs tissue retention of curcumin, thereby increasing the compound's chemopreventive activity. Bioavailability studies using healthy Swiss albino mice showed drastic enhancement in lung localization of chitosan nanocurcumin compared to free curcumin. Toxicologic evaluation confirmed the pharmacologic safety of the formulation, which, even at a dose equivalent to one-fourth that of free curcumin, exhibited higher efficacy in reducing tumor incidence and multiplicity than free curcumin. These results underscore the supremacy of chitosan–curcumin formulation over free curcumin and establish its potential as an oral supplement to prevent B[a]P- and other environmental carcinogen-induced cancers. The cover image depicts intracellular uptake of chitosan nanocurcumin (equivalent to 25  $\mu$ M curcumin) in H1299 lung cancer cells.



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