

# Curcumin (Nanocurcumin) – A Unique Approach to Treat Human Cancer

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**Abstract:** *Since ancient times, herbal remedies have been used extensively around the world. Medical professionals as well as patients now recognise the superior therapeutic value of herbal drugs due to the fact that they have less side effects than modern medications. To improve the patient compliance and prevent the repetitive administration, phototherapeutics require a systemic approach to administer the components over time. Introducing novel drug delivery system (NDDS) for herbal ingredients can help achieve this. Nanotechnology is one such innovative strategy. Increasing the effectiveness and resolving concerns with plant medicines may be possible in the future using nano-sized drug delivery systems for herbal medications. In order to treat more chronic diseases including asthma, diabetes, cancer and others, nanocarriers must be introduced into traditional treatment as NDDS. Formulating nano dosage forms (Liposomes, Proliposomes, Solid Polymeric Nanoparticles [Nanospheres and Nanocapsules], Liposomes, SolidLipid nanoparticles [SLNs], Nano emulsion, etc.) have numerous benefits for herbal drugs, including improved solubility and bioavailability, protection from toxicity, increased pharmacological activity, increased stability, improved tissue macrophage distribution, sustained delivery, protection from physical and chemical deterioration, etc. Hence, nano-sized delivery systems for herbal medicines may one day be used to improve activity and address issues with plant-based treatments.*

*Various herbal drugs such as Curcumin, Artemisinin, Vincristine, Vinblastine, Vicenin, Gossypol, Noscapine, Acetogenin, etc. Traditional Indian and Chinese medicine uses curcumin to treat a variety of illnesses. Numerous human cancer cell lines and animal carcinogenesis models have shown that curcumin, a yellow polyphenol derived from the rhizome of turmeric (Curcuma longa), has strong anti-cancer activities. By enabling ready aqueous dispersion, nanocurcumin offers a chance to increase the clinical versatility of this effective drug.*

**Keywords:** Novel Drug Delivery System, Nanotechnology, Nanoparticles, Nano-sized delivery, Nanocurcumin