

## **GOLD NANOPARTICLES IN CANCER CELL LINES**

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### **ABSTRACT**

Gold nanoparticles have immense potential for cancer diagnosis and therapy on account of their light absorption and scattering. Conjugation of gold nanoparticles (AuNPs) to ligands specifically targeted to biomarkers on cancer cells allows molecular-specific imaging and detection of cancer. The development of smart AuNPs that can deliver therapeutics at a sustained rate directly to cancer cells may provide better efficacy and lower toxicity for treating cancer tumors. Using targeted nanoparticles to deliver chemotherapeutic agents in cancer therapy offers many advantages to improve drug/gene delivery and to overcome many problems associated with conventional chemotherapy. AuNPs efficiently convert the absorbed light into localized heat, which can be exploited for the selective laser photothermal therapy of cancer.

**KEYWORDS:** Gold Nanoparticles, Drug Delivery, Tumors, Cancer Therapy