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Platinum Acetylacetonate-Titanium Dioxide Nanoparticles

National Cancer Institute

Source

National Cancer Institute. *Platinum Acetylacetonate-Titanium Dioxide Nanoparticles*. NCI Thesaurus. Code C153425.

A preparation of platinum acetylacetonate supported by sol-gel technology functionalized titania, with potential antineoplastic activity. Upon intravenous administration, the platinum moiety forms complexes with nucleophilic groups such as GC-rich sites in DNA, inducing intrastrand and interstrand DNA cross-links, as well as DNA-protein cross-links, resulting in apoptosis and cell growth inhibition. Compared to platinum alone, the nanoparticle formulation allows increased delivery of platinum to the tumor site, thereby increasing efficacy while reducing systemic toxicity.