

## **Delivery of Platinum-Based Drugs for Osteosarcoma Treatment via Graphene Oxide Nanoplatfoms**

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Osteosarcoma, the most common primary bone tumor in children and adolescents, is limited in treatment efficacy due to side effects and drug resistance [1]. However, advancements in nanotechnology and cancer biology have led to the development of tumor-targeted drug delivery nanocarriers, which can improve therapeutic efficacy while reducing side effects [2]. Despite various drug delivery nanocarriers being tested for osteosarcoma treatment, most are still in the experimental stage[3].

To overcome this, a graphene oxide-based 2D nanoplatfom functionalized with eight-arm polyethylene-glycol was developed to deliver cisplatinum for cancer treatment. This nanoplatfom demonstrated promising results in inhibiting cellular proliferation, migration, and the metastatic process in three different types of osteosarcoma cell lines (MG63, U2-OS and SAOS-2), but also glioblastoma (U87 and U118 cell lines) and breast carcinoma (MDA-MB-231 cell line). The nanoplatfom can be customized to target different cancers and allows for lower drug dosages to achieve similar effects.

### **References**

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