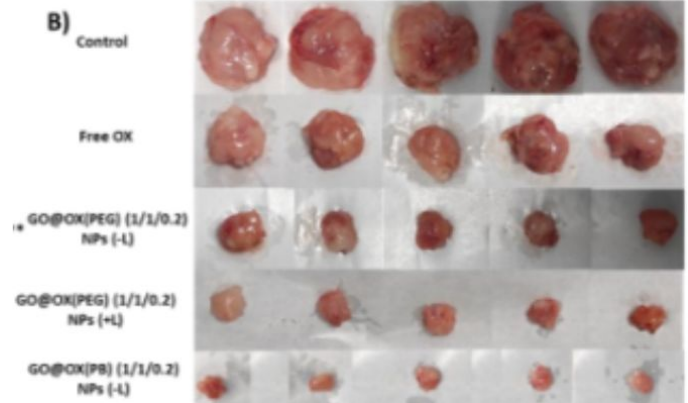


PENDING**(IN202311082369)**

Photothermal chemotherapeutic composition comprising polyethylene glycol (PEG) coated graphene-oxide conjugated to Pt (IV) anticancer prodrug



NEED

Traditional chemotherapy drugs face severe limitations in tumor targeting and non-selectivity, leading to toxicity. Graphene oxide, a new material, could offer the next breakthrough in targeted cancer treatment—avoiding side effects and improving drug delivery.

TECHNOLOGY OVERVIEW

This patent introduces a photothermal chemotherapeutic composition using graphene oxide conjugated to a Pt (IV) anticancer prodrug, coated with polyethylene glycol (PEG). The composition improves drug targeting, stability, and photothermal therapy efficiency, offering significant potential in selective cancer treatment with reduced systemic toxicity.

TECHNOLOGY KEY FEATURES

Graphene oxide conjugated to Pt (IV) anticancer prodrug, PEG coating, biotinylated PEG option, nanoparticle formulation, enhanced tumor targeting, photothermal therapy, better drug release control, biocompatible.

[Read more here](#)

MARKET ANALYSIS

The global nanoparticle drug delivery market grows at 18.3% CAGR, expected to reach \$297.7 billion by 2033 (source: Grand View Research, 2023). The Indian market for cancer therapeutics is projected to grow at 14.5% CAGR through 2030 (source: IMARC Group, 2024).

Target Industries

Nanoformulation research, targeted cancer drug developers, photothermal therapy providers, Nanomedicine development, oncology-focused therapeutic developers, system integrators for clinical cancer trials, specialized pharmaceutical manufacturers.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation and Infrastructure)

Technology is available for licensing/ co-development.

Reach out to Prof. Deepak Chitkara, Coordinator, BITS Technology Enabling Centre,

BITS Pilani Contact Details: tec.bits@pilani.bits-pilani.ac.in, 91 1596-255913