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Journal of Photochemistry and Photobiology B: Biology

Volume 164, 1 November 2016, Pages 151-159

An overview of drug delivery vehicles for cancer treatment: Nanocarriers and nanoparticles including photovoltaic nanoparticles (Short Survey)

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Abstract

Cancer is a complicated disease for which finding a cure presents challenges. In recent decades, new ways to treat **cancer** are being sought; one being nanomedicine, which manipulates **nanoparticles** to target a **cancer** and release drugs directly to the **cancer** cells. A number of **cancer** treatments based on nanomedicine are under way and mostly are in preclinical trials owing to challenges in administration, safety, and effectiveness. One alternative method for **drug delivery** is the use of **photovoltaic nanoparticles**, which has the potential to deliver drugs via light activation. The concepts are based on standard **photovoltaic** cell that holds opposite charges on its surfaces and releases drugs when charge intensity or polarity changes upon photo-stimulation such as from a laser source or sunlight. This review will cover some recent progress in **cancer treatment** using **nanoparticles**, **including photovoltaic nanoparticles**. © 2016 Elsevier B.V.

Author keywords

Cancer; **Drug delivery** system; **Nanocarriers**; **Nanoparticles**; **Photovoltaic nanoparticles**

Indexed keywords

EMTREE drug terms: antineoplastic agent; nanoparticle

EMTREE medical terms: drug delivery system; human; Neoplasms

MeSH: Antineoplastic Agents; **Drug Delivery** Systems; Humans; **Nanoparticles**; Neoplasms

Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: Antineoplastic Agents

ISSN: 10111344 **CODEN:** JPPBE **Source Type:** Journal **Original language:** English
DOI: 10.1016/j.jphotobiol.2016.09.013 **PubMed ID:** 27683958 **Document Type:** Short Survey
Publisher: Elsevier

Funding details

Funding number	Funding sponsor	Acronym
FRGS 013-023-0264	Ministry of Higher Education, Malaysia	MOHE

Funding text

This work was financially supported by the Ministry of Higher Education, Malaysia, through the fundamental research grant scheme (Grant No. FRGS 013-023-0264).

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