

## Accepted Manuscript

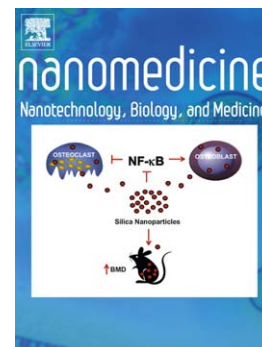
Simultaneous delivery of cytotoxic and biologic therapeutics using nanophotoactivatable liposomes enhances treatment efficacy in a mouse model of pancreatic cancer

Shifalika Tangutoori Ph.D., Bryan Q. Spring Ph.D., Zhiming Mai Ph.D., Akilan Palanisami Ph.D., Lawrence Mensah Ph.D., Tayyaba Hasan Ph.D.

PII: S1549-9634(15)00173-2  
DOI: doi: [10.1016/j.nano.2015.08.007](https://doi.org/10.1016/j.nano.2015.08.007)  
Reference: NANO 1176

To appear in: *Nanomedicine: Nanotechnology, Biology, and Medicine*

Received date: 16 May 2015  
Revised date: 28 August 2015  
Accepted date: 28 August 2015



Please cite this article as: Tangutoori Shifalika, Spring Bryan Q., Mai Zhiming, Palanisami Akilan, Mensah Lawrence, Hasan Tayyaba, Simultaneous delivery of cytotoxic and biologic therapeutics using nanophotoactivatable liposomes enhances treatment efficacy in a mouse model of pancreatic cancer, *Nanomedicine: Nanotechnology, Biology, and Medicine* (2015), doi: [10.1016/j.nano.2015.08.007](https://doi.org/10.1016/j.nano.2015.08.007)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Simultaneous delivery of cytotoxic and biologic therapeutics using nanophotoactivatable liposomes enhances treatment efficacy in a mouse model of pancreatic cancer

Shifalika Tangutoori<sup>a,\*</sup>, Bryan Q. Spring<sup>a‡</sup>, Zhiming Mai<sup>a‡</sup>, Akilan Palanisami<sup>a</sup>, Lawrence Mensah<sup>a,\*\*</sup> and Tayyaba Hasan<sup>a,b,1</sup>

<sup>a</sup>Wellman Center for Photomedicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA 02114

<sup>b</sup>Harvard-MIT Division of Health Science and Technology, Boston MA, 02114

### **Manuscript specifications**

Abstract: 143 words; Complete manuscript (Body text + Figure Legends): 4245+723=4966; Graphical abstract: 82; Total number of figures in Main manuscript: 7; Number of Tables: 3; References: 57

---

**Abbreviations:** mAb, Monoclonal Antibody; BPD, Benzoporphyrin Derivative; PDT, Photodynamic Therapy; nanoPAL, nanophotoactivatable liposomes; PDAC, Pancreatic Ductal Adenocarcinoma; VEGF, Vascular Endothelial Growth Factor; MAPK, Mitogen Activated Protein Kinases; HIF, Hypoxia Inducible Factor; JNK, c-Jun NH<sub>2</sub>-terminal kinase; MET, hepatocyte growth factor receptor; PDI, Poly Dispersity Index; DAPI, 4',6-diamidino-2-phenylindole; DPPC, 1,3-bis(sn-3'-phosphatidyl)-sn-glycero-3-phosphocholine; DOTAP, 1,2-dioleoyl-3-trimethylammonium-propane; DSPE-PEG<sub>2000</sub>, 1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[methoxy(polyethyleneglycol)-2000].

<sup>1</sup>**Corresponding Author:** Dr. Tayyaba Hasan, Wellman Center for Photomedicine, Massachusetts General Hospital, 40 Blossom Street, Boston MA, 02114; Phone 617-726-6996; Fax: 617-726-8566; E-mail: thasan@mgh.harvard.edu

**Funding:** This study was supported by the National Institutes of Health (NIH) – National Cancer Institute (NCI) Grants F32CA144210, RO1CA160998 and PO1CA084203.

**Financial disclosure:** The authors declare no competing financial interest.

\*Current address of this author is Nanomedicine science and technology center, Northeastern University, Boston, MA-02114

\*\*Current address for this author is Massachusetts Institute of Technology, Koch Institute for Integrative Cancer Research, Cambridge, MA

Download English Version:

<https://daneshyari.com/en/article/10435972>

Download Persian Version:

<https://daneshyari.com/article/10435972>

[Daneshyari.com](https://daneshyari.com)