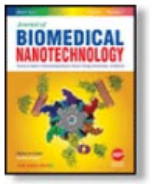

Application of Crosslinking of Thiolated Hyaluronic Acid Nanogel for Targeted Therapy and Drug Delivery in Melanoma

Authors: Wang, Jing [1]; Zhu, Xin [1]; Mirzaei, Yousef [2]; Zhuo, Fan [1]; jabbari, Hadi [3]; Al-Naqeeb, Bashar Zuhair Talib [4]; Bai, Yao [1];
Source: Journal of Biomedical Nanotechnology, Volume 19, Number 11, November 2023, pp. 1867-1874(8)
Publisher: American Scientific Publishers
DOI: https://doi.org/10.1166/jbn.2023.3516

view table of contents | next article > | ADD TO FAVOURITES

Abstract | References | Citations | Supplementary Data | Suggestions

Melanoma is extremely aggressive and its prevalence is growing every year. Gel was generated by altering thiolated hyaluronic acid on surface-functionalized Pluronic F127-TPGS mixed micelles to create a nanogel with the ability to selectively target melanoma. Cell uptake experiment was used to quantitatively and qualitatively assess the uptake of the nanogel by B16F10 melanoma cells; cytotoxicity experiment was used to investigate the toxicity of the carrier material to cells. Microscopic analysis of the produced nanogel revealed an average particle size of 30 nm, with no discernible cytotoxic effect on both mouse 3T3 fibroblasts and mouse melanoma B16F10 cells. Higher HCAM receptor expression in B16F10 cells allowed for more efficient absorption than in 3T3 cells.

Keywords: Hyaluronic Acid; Melanoma; Mixed Micelles; Nanogel