

## NANOCARRIERS FOR ANTITUMORAL DRUG DELIVERY IN SKIN CANCER THERAPY

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**Abstract.** *Nanomedicine represents one of the most active research areas of nanotechnology. Nanotechnology has found applicability in nanomedicine for diagnosis, prevention and treatment of various diseases, in particular cancer. Over the last few years, researchers have agreed with the incorporation/association with markers or antitumoral drugs into/with nanoparticles, with the aim to detect, prevent and treat cancer. The multiple advantages of nanoparticulated drug carrying systems consist in reducing drugs metabolism, improving bioavailability and diminishing immunogenicity. Within the present work, we have presented the most recent discoveries in the utilization of various types of nanoparticles for the treatment of skin cancer. The advances in the nanocarriers treatment of basal cell carcinoma, squamous cell carcinoma and melanoma have been reported.*

**Keywords:** antitumoral drugs, melanoma, nanocarriers, nanoparticles skin cancer.

### Introduction

One of the leading causes of death worldwide remains cancer (Aruna et al., 2013). Over the past several decades a significant progress has been made in the fundamental knowledge of cancer biology, diagnostic and treatment methods (Ruoslahti et al., 2010). Skin cancer is one of the most common of all cancer types and if it is detected early it can be treated effectively. Each year in the United States of America more than 3.5 million cases of non-melanoma skin cancer are diagnosed and this year, 2015, more than 73.000 cases of melanoma (ACS, 2014a) are expected to be diagnosed. At the same time, in Europe, malignant melanoma is also the most common cause of cancer death, with almost 22.200 deaths in 2012. Norway and Slovenia have the highest mortality rates in men, respectively women, while Albania and Malta have the lowest death rates for men and restively women (Ferlay et al., 2013).

The terminology of skin cancers is in accordance with the cells they arise from and their clinical behaviour. There are three general types: basal cell carcinomas (BCCs), squamous cell carcinomas (SCCs), both referred as non-melanocytic skin cancer-NMSC, and cutaneous malignant melanomas (CMs), the latter known as

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