The goal of this thesis is to conduct a literary research about cell viability changes after interaction with TiO_2 nanoparticules and anthracycline cytostatics. Anthracycline cytotoxic agents are one of the most commonly used groups of antineoplastic drugs, particulary doxorubicin. A serious side effect of anthracyclines in para drug administration (extravasation) is necrosis of the surrounding tissue. Effective treatment for this side effect is not available as of yet. One possible way could be to use sorption and degradation characteristics of nanoparticles of TiO_2, which are non-toxic to the human body. Anthracyclines are characterized by rapid adsorption to the surface of nanoparticles of TiO_2 and subsequent degradation to non-toxic products. Therefore further I deal with the use of nanoparticles of TiO_2, their unique chemical properties and the way they affect cell viability, especially keratinocyte cell lines *in vitro*. It has been shown that there is no reduction in cell viability when culturing keratinocytes together with TiO_2 nanoparticles and thus it opens the door for further studies on the use of nanoparticles of TiO_2 for the treatment of necrotizing anthracycline extravasation.