The aim of anticancer therapy, apart from cancer cells, may be also normal cells, accompanying cancer cells, called tumor microenvironment. The tumor microenvironment regulates the formation of blood vessels and inhibits the activity of the immune system, what accelerates the growth of tumors. Specific activation of immune cells present in tumor microenvironment which may cause the destruction of cancer cells is required. STING is one of the proteins responsible for immune activation. It is activated during infections and after DNA damage. Recent works indicate that activation of STING protein inhibits tumor growth but it does not completely eliminate the cancer. Therefore, it seems necessary to combine such therapy with an additionally agents. Our previous results indicate high efficacy of the DMXAA compound, which causes both stimulation of STING protein and destruction of tumor blood vessels. In this therapy, we observed a complete cure of tumor-bearing mice. However, in the clinic this agent was not so effective. In humans the compound reduced blood flow in the tumor but did not activate the immune response. This is related to the different structure of STING protein in mice and humans. We will investigate whether it is possible to achieve a therapeutic effect using factors activating the STING protein and agents that specifically destroy the tumor blood vessels. Such a combination should eliminate cancer cells. We will also examine the potential of such a combination in eliminating distant tumors, metastases. We will verify if the STING protein level correlates with the effectiveness of radiotherapy in patients, and in the future if it is possible to determine the effectiveness of anticancer therapy when investigating the level of STING protein in tumors. We will conduct research on mouse models of tumors: melanoma and breast cancer. Obtained results in the future may become one of the therapeutic strategies used in treatment of patients with cancer.